CONFERENCE ATTENDANCE ROSTER

U.S. ARMY
SIMULATION, TRAINING AND INSTRUMENTATION COMMAND
(STRICOM)

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NAVAL AIR WARFARE CENTER
TRAINING SYSTEMS DIVISION
(NAWCTSD)

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19990813 082

Present the Fourth

JOINT DEPARTMENT OF DEFENSE ADVANCE PLANNING BRIEFING TO INDUSTRY

Clarion Plaza Hotel Orlando, FL
April 21-23, 1999 Event #91M

With the Support of

NATIONAL TRAINING SYSTEMS ASSOCIATION

DTIC QUALITY INSPECTED 4

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STRICOM / NAWCTSD / USAF TSPG

ADVANCE PLANNING BRIEFING TO INDUSTRY

SUPPORTED BY

NATIONAL TRAINING SYSTEMS ASSOCIATION

APRIL 21-23, 1999

EVENT #91M

Conference Agenda

Wednesday, April 21, 1999

5:00-8:00 PM	**Evening Registration**
	Light Refreshments
	Clarion Plaza Hotel Ballroom Foyer

Thursday, April 22, 1999

6:30	**Registration and Continental Breakfast**
	Ballroom Foyer
8:00	**Welcome / Administrative Remarks**
	Ballroom A
	RADM Fred Lewis, USN (Ret.)
	Executive Director, NTSA
8:05	**Keynote Speakers**
	LtGen Joseph Redden, USAF
	Commander, Air University
	Maxwell Air Force Base
	MG Rob Goff, USA
	Deputy Chief of Staff, Training
	TRADOC

Presentation on Simulation Based Acquisition

9:00	**SBA**
	Ms. Robin Frost
	OUSD (A&T)

U.S. Navy/U.S. Marine Corps Presentations

9:30	**NAWCTSD Command Brief**
	CAPT Jay Hixson, USN
	Commanding Officer
9:50	**Undersea Programs**
	Mr. Leo Harris
	Program Director
10:10	**Break**
10:30	**Surface Programs**
	Mr. John Freeman
	Program Director (Acting)

10:50	**Aviation Programs** ***Mr. Robert Matthews*** Program Director
11:10	**Marine Corps Programs** ***COL Perry Dunn, USMC*** Program Director
11:30	**Science & Technology Programs** ***Mr. Bill Harris*** Program Director
11:50	**Special Emphasis Programs** ***CAPT Art Gallo, USN*** Program Director
12:15	**Luncheon**
1:15	**Navy Panel Discussion** Moderator: ***Mr. Ray Malatino*** Executive Director, NAWCTSD

U.S. Army Presentations

1:45	**STRICOM Update** ***BG William Bond, USA*** Commander, US Army STRICOM.
2:15	**Technology Challenges** ***Dr. Michael Macedonia*** Chief Scientist
2:25	**Training Devices** ***COL Craig Hanford, USA*** Project Manager
2:45	**Combined Arms Tactical Trainer** ***COL Alan Hammond, USA*** Project Manager
3:05	**Instrumentation, Targets and Threat Simulators** ***COL Mark Russell, USA*** Project Manager
3:25	**Break**
3:40	**Warfighter's Simulation** ***COL Mike Rogers, USA*** Project Manager
4:00	**Engineering Opportunities** ***Mr. Edwin Trier*** Director of Engineering
4:20	**Logistics Opportunities** ***Mr. John F. Ells*** Director of Logistics
4:40	**Security Assistance** ***Mr. John Daniele*** Chief, Strategic Planning and Integration
5:00	**Business Partnering**

	Mr. Harlan Gottlieb Legal Counsel
5:20	**Electronic Commerce** *Ms. Donna Felix* Project Director
5:40 - 7:00	**No-Host Reception**

Friday, April 23, 1999

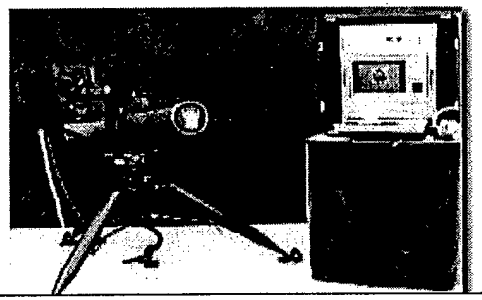
7:00	**Registration and Continental Breakfast**

U.S. Air Force Presentations

8:00	**AFMC Training Perspective** *Mr. Glenn Miller* Deputy Director, TSPG *Col Jerald Straw, USAF* Chief, Warfighter Training Research Division, AFRL
8:35	**Air Mobility Command Training Needs** *Col Bob Meyer, USAF* Chief, Aircrew Ops & Training, HQ AMC/DOT
9:00	**AFSPC Space Training** *Col Doug Cook, USAF* Deputy Chief, Operations, Training and Evaluation Division HQ AFSPC/DOT
9:25	**AETC Training Needs** *Mr. Gary Teer* Deputy Chief, Requirements Division AETC/XPR
9:50	**Break**
10:10	**AFSOC Training Programs** *Col Mike Damron, USAF* Chief, Operations Training Division, AFSOC/DOT
10:35	**Air Combat Command Training Program** *Col (Sel) Paul Avella, USAF* Chief, Conventional Operations and Training Branch, HQ ACC/DOTO
11:00	**Air Force Panel Discussion (Q&A w/briefers)** Moderator: *Col Larry Skapin, USAF* Director, TSPG
11:45	**Adjourn to Deli Style Box Lunch**

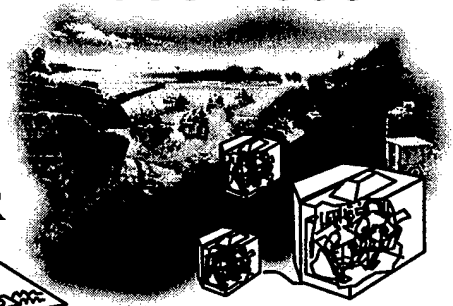
Training Aids, Devices, Simulations, and Simulators (TADSS) & Future Training Capabilities

Past
1985-1995



Precision Gunnery Trainer System (Indoor)

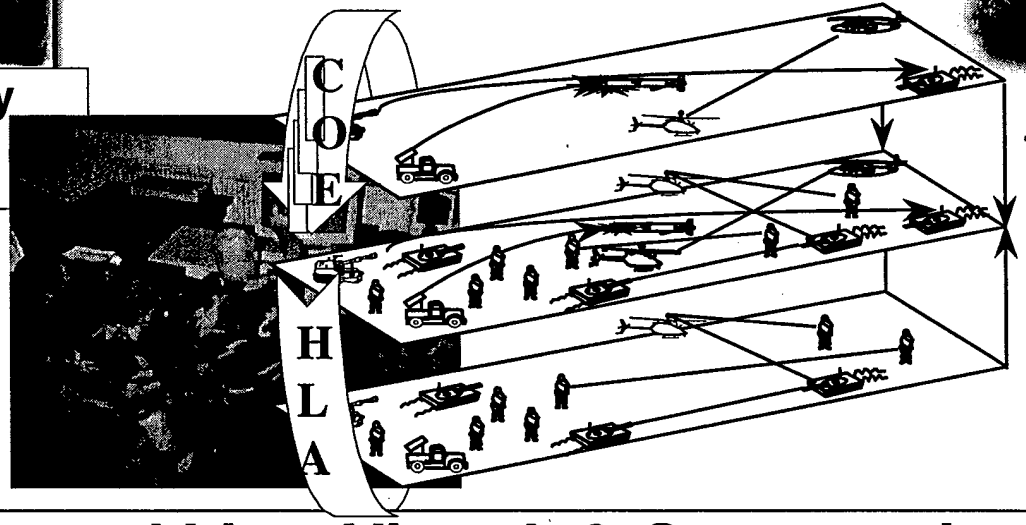
Present
1995-2005



Close Combat Tactical Trainer

Future
2005-2015

C4ISR



Fully Integrated Live, Virtual, & Constructive Training with Scenarios and Linked Distance Learning Capabilities

Briefing Outline...

- Capabilities/Limitations of Today's TADSS
- Future TADSS Requirements
  - Change Training Environment
  - Digital Training Revolution
  - Simulation Training Strategy
  - Applying SMART Principles
  - Embedded, Multi-purpose, Interoperable, and Networked
- Future Training Capability Requirements
  - Live
  - Virtual
  - Construct
  - Leader and Battle Staff and Leader

Today's TADSS....

- **Predominantly stand-alone or appended**
  - **Mostly part-task trainers -- e.g. maneuver or gunnery**
    - **Generally not interoperable or deployable**
      - **Have limited and/or no standard After Action Review (AAR) capability**
        - **Training capabilities & fidelity limited by old technology**
          - **Costly to maintain and update**

Stinger Troop Proficiency Tnr



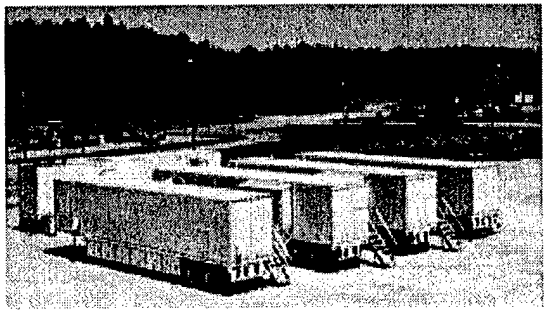
TADSS in development today provide some improvement....

- **More appended , modular, and deployable simulators**
  - **Some degree of interoperability (Virtual & Constructive)**

Shortfalls still remain....

- **Part-task training - maneuver or gunnery**
- **No seamless interoperability**
- **No standard AAR**
- **Capability & fidelity remain limited by dated technology**

Mobile CCTT

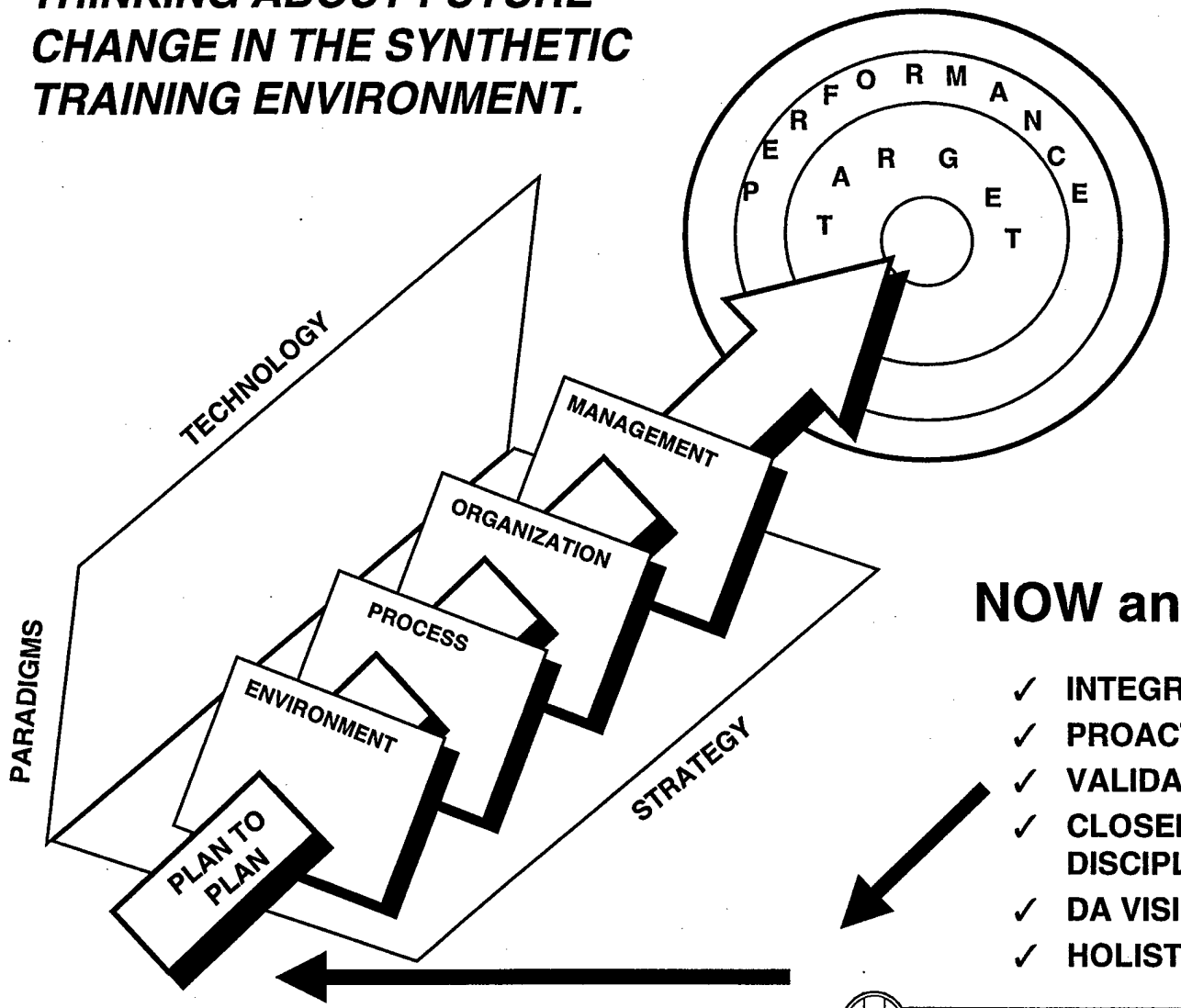


Future TADSS must support the training challenges of Force XXI and Digitization....



Changing Training Environment...

THINKING ABOUT FUTURE CHANGE IN THE SYNTHETIC TRAINING ENVIRONMENT.



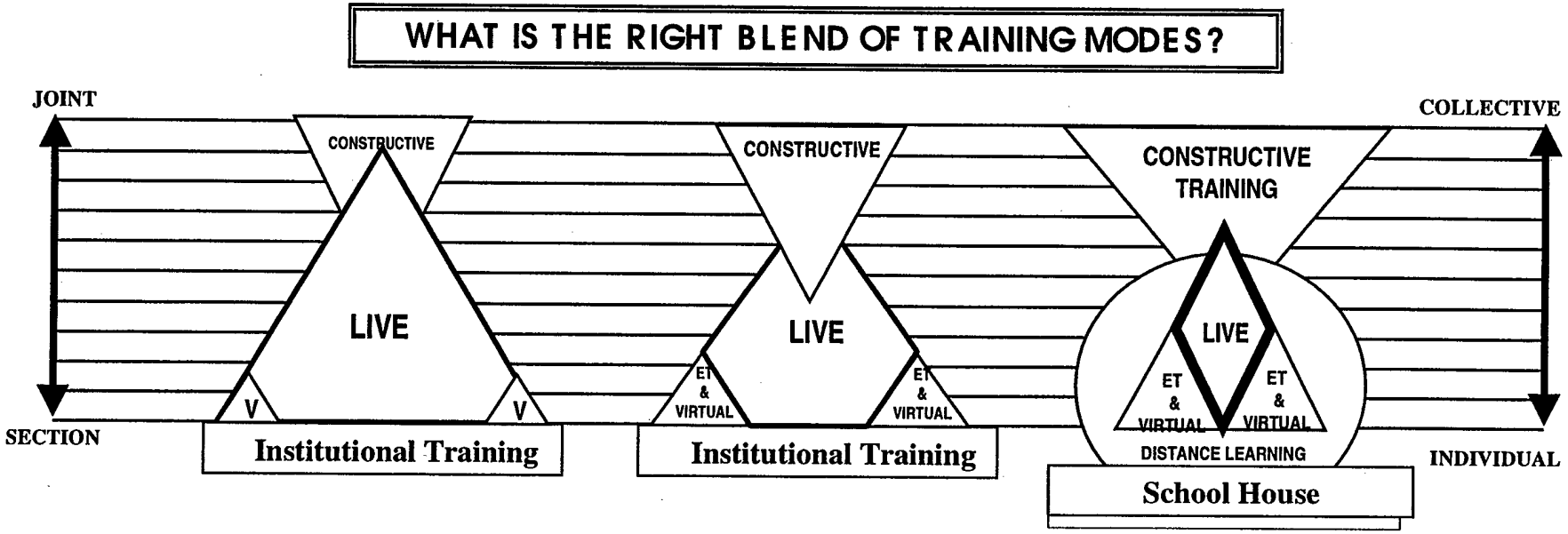
YESTERDAY:

* DECENTRALIZED
* REACTIVE
* PROBLEMS AFTER THE FACT
* OPEN LOOP
* UNSYNCHRONIZED
* TUNNEL VISION
* STOVE PIPE DEVELOPMENT

NOW and the FUTURE:

- ✓ INTEGRATED RESOURCES
- ✓ PROACTIVE
- ✓ VALIDATION UP-FRONT
- ✓ CLOSED LOOP - DISCIPLINED
- ✓ DA VISIBILITY
- ✓ HOLISTIC DEVELOPMENT

DIGITAL TRAINING REVOLUTION...



- CONSTRUCTIVE SIMS EMERGE
- ROBUST DEPLOYMENTS
- PERMISSIVE OPTEMPO
- LIMITED VIRTUAL SIMULATORS

- EXPANDED BATTLE STAFF AND JOINT SIMULATIONS
- IMPROVED VIRTUAL SIMS
- OPTEMPO CONSTRAINED

- TRANSITION TO JSIM / WARSIM
- CONSTRAINED LIVE ENVIRONMENT
- VIRTUAL "RIGHTS OF PASSAGE"
- REDUCED OPTEMPO USING EMBEDDED TRAINING
- DISTANCE LEARNING BENEFITS

Simulation Strategy For Army Training...

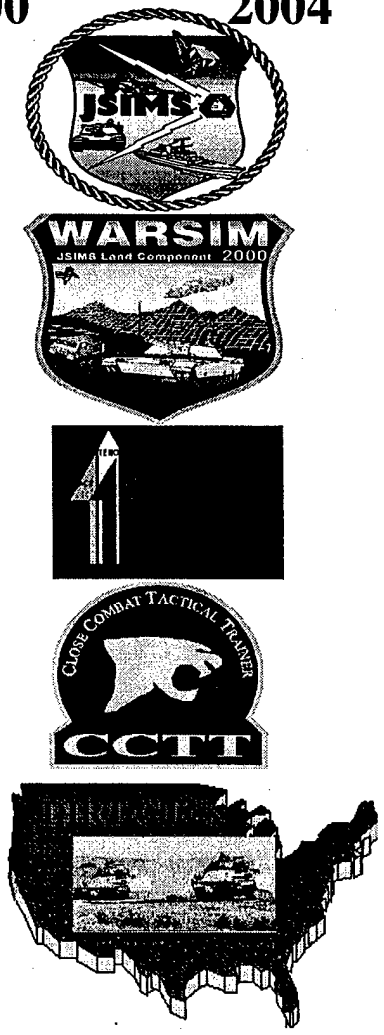
The Main Overall Effort Remains -- Develop Leaders and Units Who Win

1998 1999 2000 2004 2006 2010

ALSP Confederation

CBS
CSSTSS
TACSIM
BBS
JCM
JCATS
JANUS

Building to a Seamless,Synthetic, Training Environment- no compromise in standards.



GOAL
Train repetitively under tough, realistic conditions.

- **Practice in simulations**
- **Rehearse in simulators**
- **Drill repetitively in Live**
- **Verify at CTCs**
- **Maintain HS training**

ONE ENVIRONMENT

- *Reduces train-up time*
- *Standardizes training*
- *Quality training vice simulation mechanic's training*
- *Enhances Live training experience*

SMART -- Using Training Simulations to Support SMART...

✔ **Clarify the roles and responsibilities of the multi-developers operating in the synthetic environment.**

✔ **Identify training requirements early and continuously throughout the integrated development process.**

✔ **Ensure operating systems include evaluation, assessment, and mission rehearsal tools.**

✔ **Emphasize the "soldier in-the-loop" throughout the development cycle.**

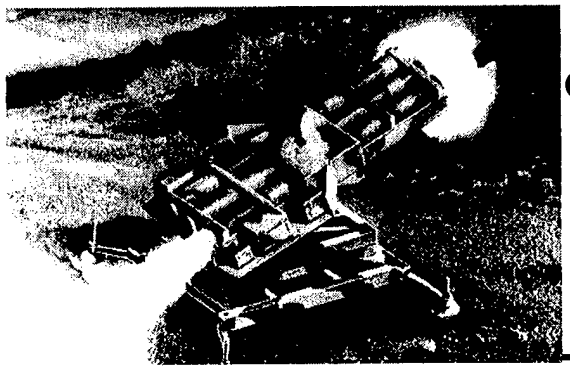
✔ **Focus on the system's Trainability, Usability, and Fightability -- *not* just manufacturability, operability, maintainability, and cost.**

CHALLENGE: Ensure a modernized force is in fact a trained and ready force.

Future TADSS must be Embedded or embedded/appended; Providing the ability to....

- **Increase the opportunity to train individual & collective skills**
- **Conduct training in deployed areas of operation**
- **Reduce total program costs associated w/stand-alone TADSS**
- **Enhance training fidelity**
- **Conduct mission rehearsals**

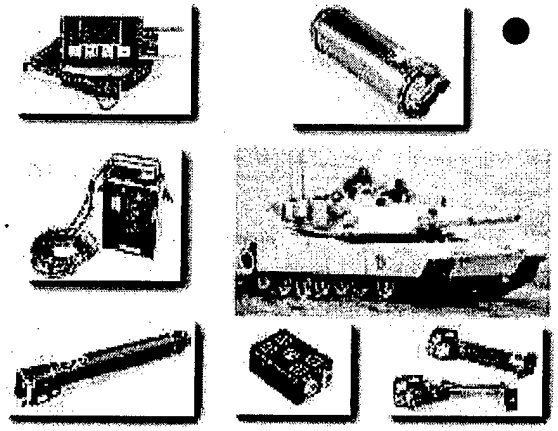
Light MLRS Embedded Tng



Future TADSS must be Multipurpose; Providing the ability to....

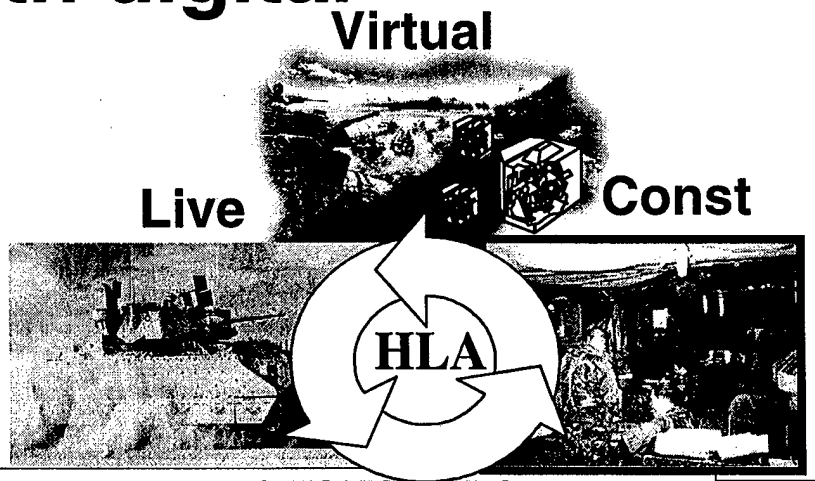
- **Integrate gunnery & maneuver training**
  - **Conduct individual, collective, & Combined Arms training**
  - **Perform diagnostics & conduct After Action Reviews**

TWGSS

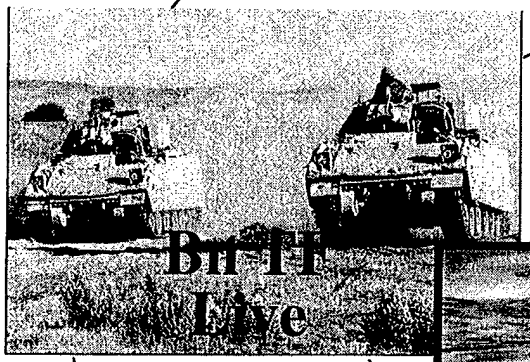


Future TADSS must be seamlessly interoperable & networked; Providing the ability to....

- **Link live, virtual, & constructive simulation to support multi-echelon, Combined Arms, & large scale exercises**
- **Seamlessly operate with digital C4I systems**
- **Operate in a common synthetic environment**



Scenario Driven Training w/ DL Links to the Doctrinal/Learning Institutions....







Homestation

ABCS

CTC

Deployed

DL Link

DL Link

- New Doctrine
- Mission Planning
- Scenarios

- Lessons Learned
- After Action Reviews
- Experimentation Data



TRADOC Schools

Future Required Training Capabilities...



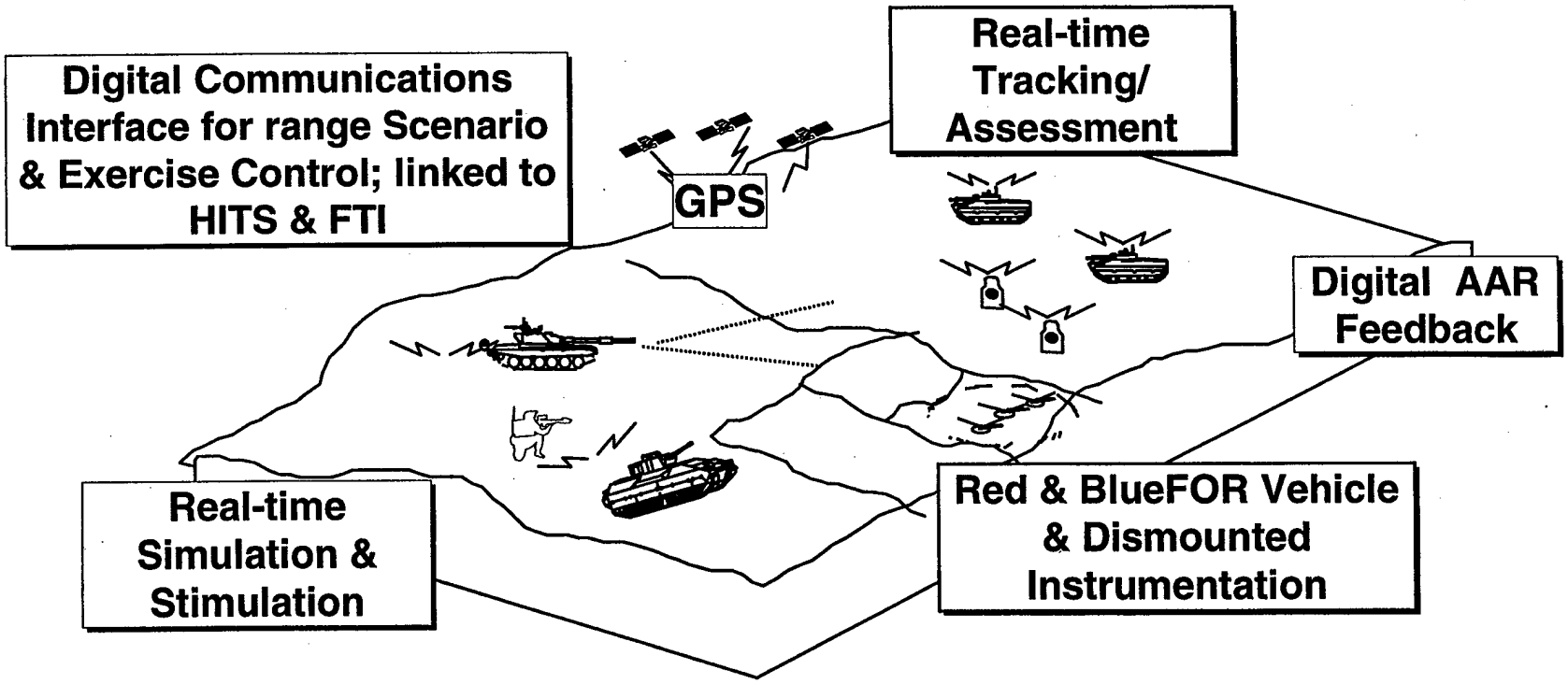
The Problem....

- ✗ Engineers can only conduct 25% of their mission task training due to environmental limitations.
- ✗ Aviation reports significant increases in training, safety, and crew risk due to shortage of flying hours.
- ✗ Increasing weapons capabilities will exceed range safety limits especially for collective combined arms team training.
- ✗ Ammunition expense will increase and crew opportunities to fire main weapons systems will be further reduced due to cost.
- ✗ No range today truly allows for combined arms Task Force fire and maneuver with an interactive OPFOR.
- ✗ Current MILES has limited availability and does not accurately replicate crew tasks and weapon's characteristics
- ✗ MILES AGES and ADA MILES have limited availability and provide limited feedback to the firing crew.

All of these problems will get worse, more restrictive, and more costly.

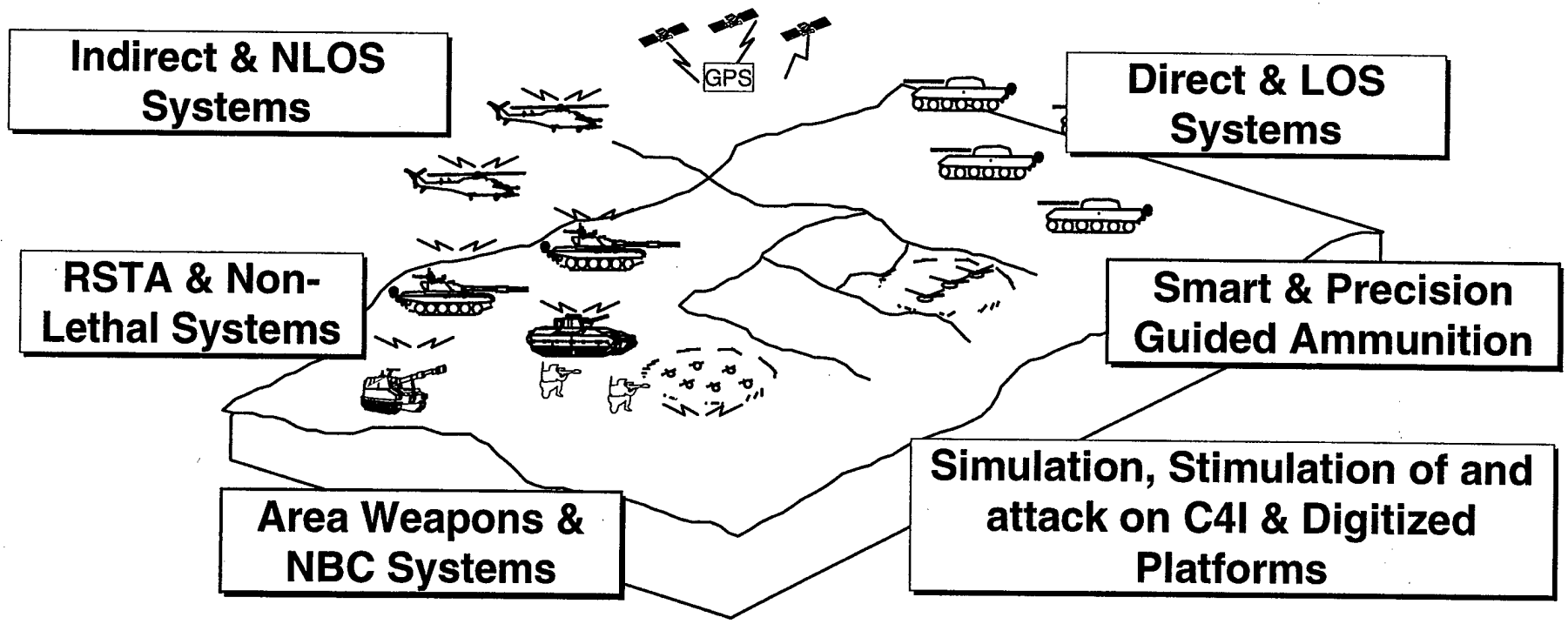
Digital Live Fire Range Requirements...

Capability... live fire & precision range exercise & scenario control, essential threat presentations and battlefield effects to stress and stimulate emerging digital and weapons system functions.



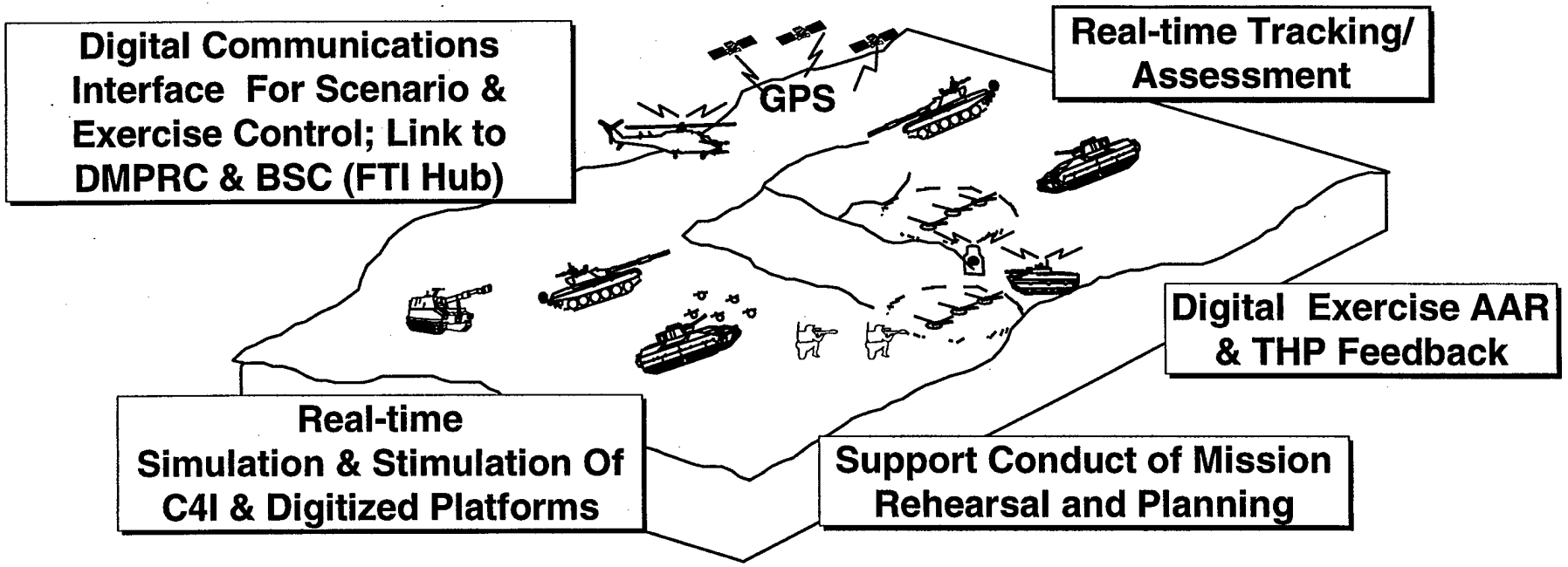
Future - Tactical Engagement Simulations (F-TES) Requirements....

Capability... provide ability to simulate & stimulate a full array of weapons and C4I/digital warfighting systems in the collective training environment

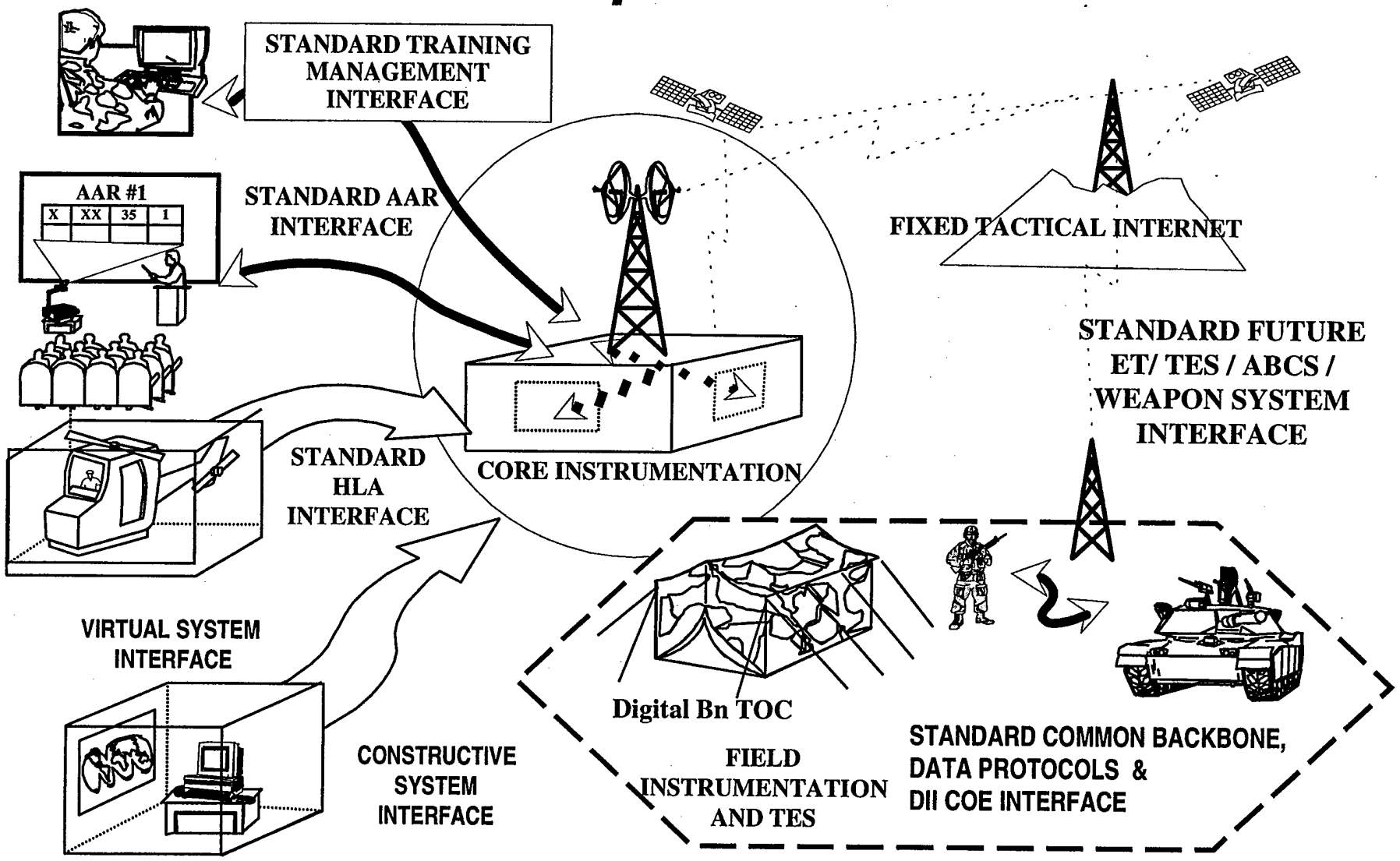


Future Homestation and CTC Training Instrumentation System Requirements...

Capability... common architecture for CTC and Homestation Training Instrumentation Systems with ability to: support combined arms/multi-echelon training; stimulate & simulate C4I/digital systems; plan and execute mission rehearsal; and, collect/analyze data for digital AAR



Common Digital Installation- Instrumentation Architecture Requirement...



Future CCTT Terrain Database Requirements...

CCTT mission training, rehearsal, and execution is enhanced through real time acquisition of battlefield information & imagery and its projection back to the battlefield in usable form as rapidly generated 3D terrain databases.

Battlefield Visualization

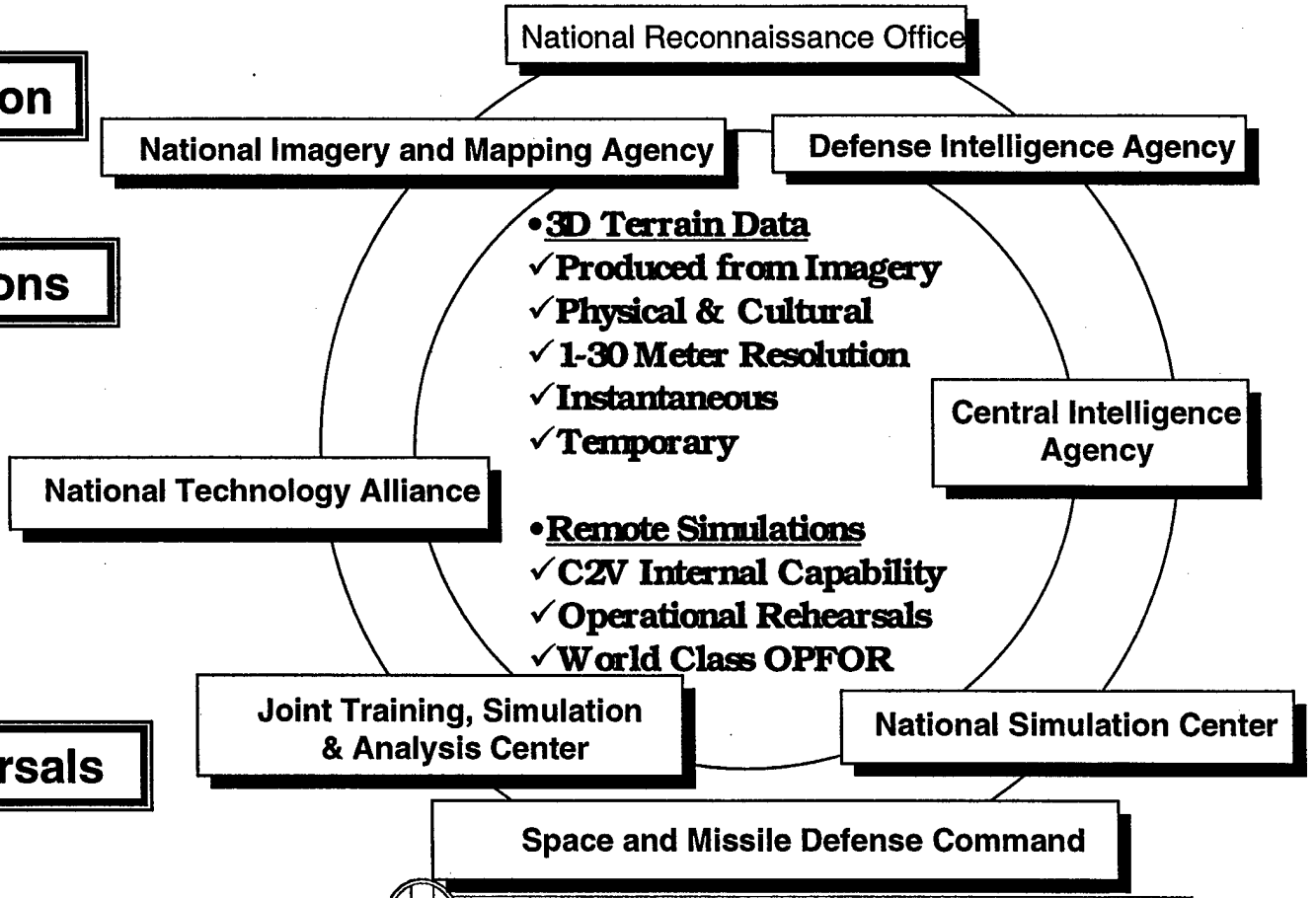
and

Remote Simulations

Course of Action Analyses

and

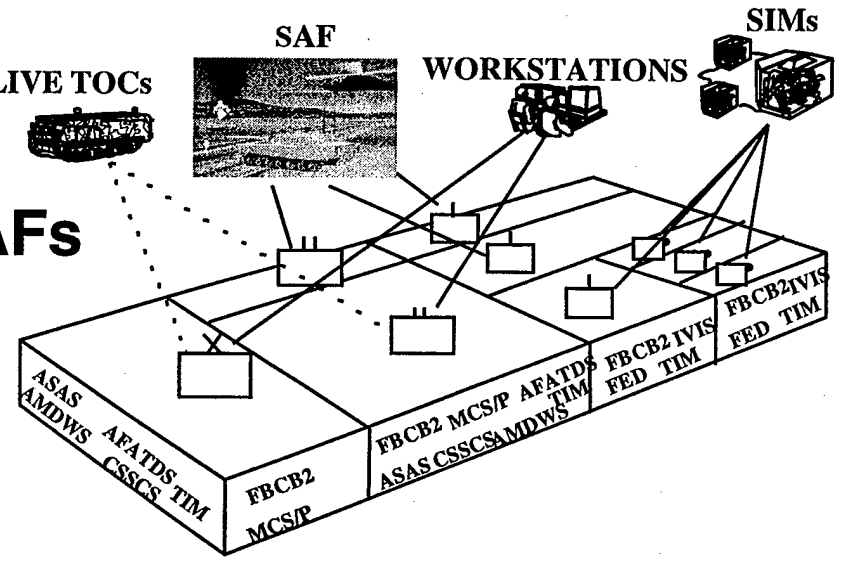
Mission Rehearsals



***Common* Terrain Requirements...**

Today each system has unique terrain requirements which make interoperability difficult -- *Future terrain must:*

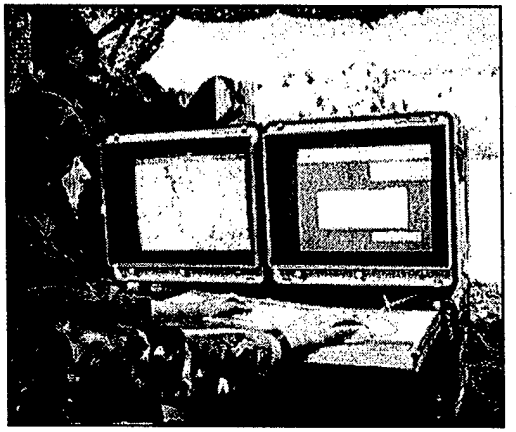
- **Support User Needs**
  - **C4I Systems**
  - **Virtual and Constructive SAFs**
  - **2D and 3D Maps**
  - **Mission Rehearsal**



- **Leverage SEDRIS Investment**

- **Interoperate with JSIMS Synthetic Natural Environment**

Broad Requirements for Future Leader and Battle Staff Training Capabilities...



- **Digital Battle Staff Trainer**
  - Low overhead driver, full combat spectrum, multiple scenario
  - Deployable, embedded with Army Battle Command Systems
- **Automated Course of Action / Wargaming Tools**
  - Produce Rapid Outcomes
  - Automated attrition models w/simple, changeable variables
  - Enroute mission rehearsal capability
  - Linked to Army Battle command Systems
- **Industry Adaptive Leader Programs**
  - Methods for training multi-dimensional leaders--adaptive thinking in complex, information rich environments
  - Iterative training w/critical thinking exercises


Our Collective Challenge is
Provide Our Soldiers and
ommanders with the
ary Training Tools to

Simulation Based Acquisition
- An Update for Industry -

Presentation to the
Advance Planning Briefing to Industry
April 22, 1999



Robin Frost

Test, Systems Engineering, and Evaluation
OUSD(A&T)

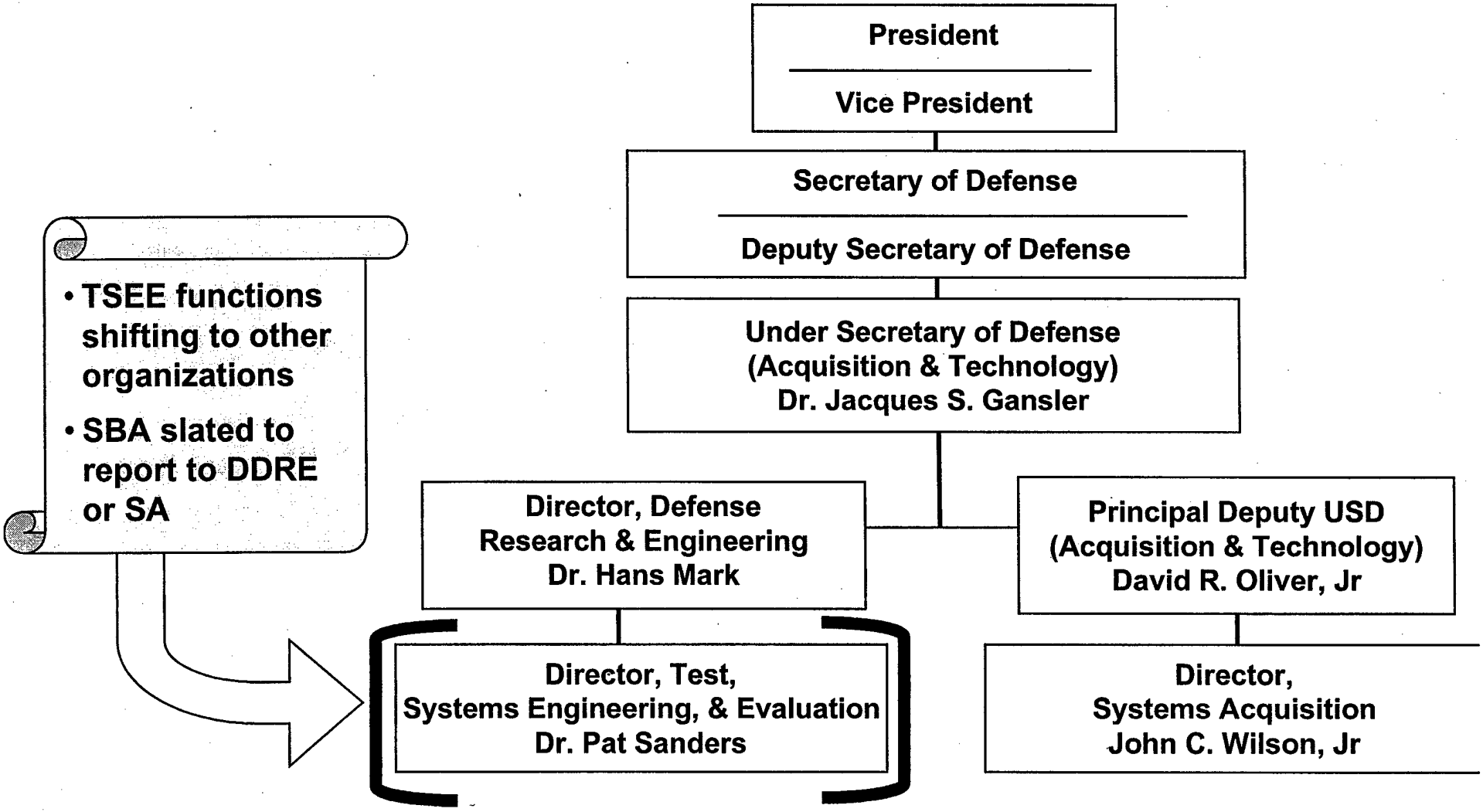
Office of the Under Secretary of Defense
(Acquisition & Technology)
Test, Systems Engineering & Evaluation

Robin L. Frost
Systems Engineer

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OFFICE OF SECRETARY OF DEFENSE



PURPOSE

- Discuss the OSD initiative to change the way DoD determines what and how to buy….
  Simulation-Based Acquisition
- Summarize current activity
- Identify SBA contacts across DoD

…its all about virtual development, and leveraging M&S reuse!

SBA IS A TOP LEVEL INITIATIVE

- **Dr. Jacques Gansler, USD(A&T), has recognized SBA as an important initiative integral to an effective and widespread "Revolution in Business Affairs" throughout DoD**
- **SBA will contribute to Acquisition Reform "after next"**
  - Reduced Cost of Ownership
  - Systems built smarter, with reduced design risk and on-target capability
  - Can support cycle time reduction
- **The SBA Road Map exemplifies steps undertaken by USD(A&T) to construct the foundation for a necessary part of Acquisition Reform in the future**
- **The Military Services are initiating their implementation plans**

Defense System Acquisition

Widely recognized problem:

Systems cost too much, take too long to field, are often out-of-date when finally placed into the user's hands.

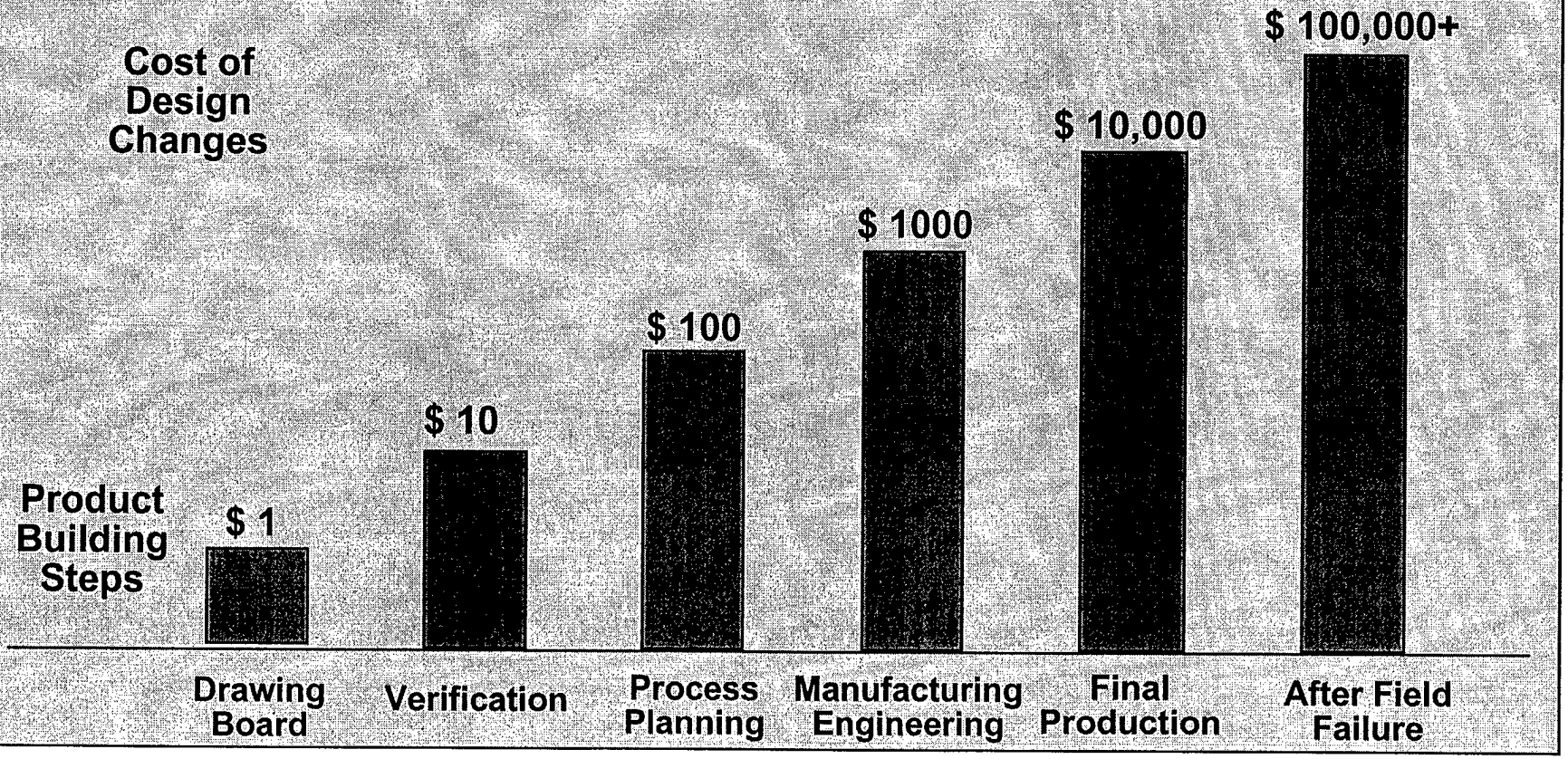
THE GOALS

- **Vice President's National Performance Review -**
  - Cut delivery time for new systems by 25%
- **Department of Defense -**
  - Stretched goal to 50% reduction of cycle time
  - Set goals to reduce Total Ownership Cost
- **Defense Systems Affordability Council -**
  - Recognized potential of M&S,
  - Set SBA as one of the top initiatives to realize the stretch goal

AVOID COSTLY MISTAKES

-- Get the Design Right Before Hardware --

Using desktop virtual development, necessary design changes can be identified and made earlier in the cycle (prior to hardware) when they are substantially less expensive.



DRIVERS OF LIFE CYCLE COST

-- Focus on Life Cycle O&S --

Acquisition Costs (28%)



- Fabrication 72%
- Documentation 2%
- Design 12%
- Installation & Checkout 14%

Operations Costs (12%)



- Personnel 67%
- POL 32%
- Misc 1%

Logistics Support Costs (60%)

Recurring Spt (92%)



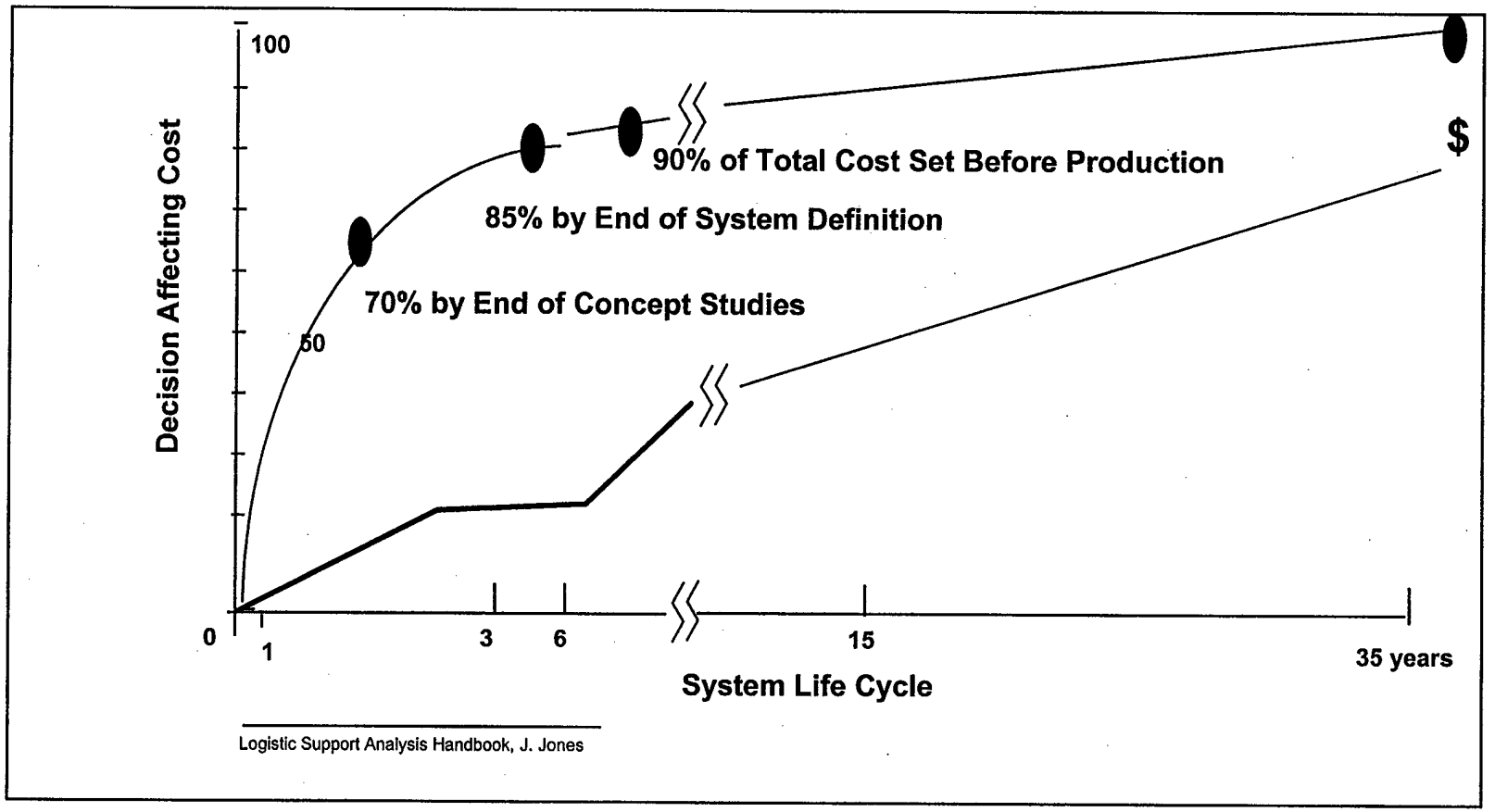
- Maint Labor 70%
- Repair Materiel 10%
- Replen Spares 20%

Investment (8%)



- Initial Training 7%
- Initial Spares 68%
- Other 25%

WHERE IS COST DETERMINED?



Logistic Support Analysis Handbook, J. Jones

Life Cycle Costs Are Locked in During the Up-front Design and Development Process

DEMONSTRATED VALUE OF M&S IN ACQUISITION
- METRICS -

Schedule

- "Big three" auto manufacturers reduced concept approval to production time from 5 to 3 years
- Electric Boat able to halve time required for submarine development, from 14 to 7 years

Productivity

- 38 Sikorski draftsmen took six months to develop working drawings of the CH-53E Super Stallion's outside contours; with M&S, 1 engineer accomplished the same task for Comanche helicopter in 1 month
- 14 engineers at Tank and Automotive Research and Development Center designed low-silhouette tank prototype in 16 months; (3 years, 55 engineers by traditional methods)

Quality and Performance

- Northrop's CAD systems first-time, error-free, physical mockup of many sections of B-2 aircraft
- Navy's Next Generation Attack Submarine reduced standards parts list to about 16,000 items from 95,000 items for earlier Seawolf-class submarine

SIMULATION BASED ACQUISITION (SBA) IS A STRATEGY FOR CHANGE

Vision

...to have an Acquisition Process in which DoD and Industry are enabled by robust, **collaborative use** of simulation technology that is **integrated across acquisition phases and programs.**

Goals

- Substantially **reduce the time, resources and risk** associated with the entire acquisition process;
- Increase the quality, military worth and supportability of fielded systems, while **reducing their operating and sustaining costs** throughout the total life cycle;
- **Enable Integrated Product and Process Development** (IPPD) across the entire acquisition lifecycle.

Government - Industry partnership is key !

SBA - NOT JUST TECHNOLOGY

Culture

[redacted]

- Enabled Integrated Process Teams
- Changing Roles and Responsibilities

Process

[redacted]

- Iterative Spiral Process
  - Electronic Exchange of System Models
  - Rapid Evaluation of Multiple Options

WHY → WHAT → HOW

Requirements Functional Design | Implementation Design

Government | Industry

CULTURE PROCESS TECHNOLOGY

SBA

SIMULATION BASED ACQUISITION

Environment

[redacted]

- Collaborative Distributed Engineering
  - Seamless Integration of Engineering Disciplines
- Info Repository
  - User Transparent Web Style Access
- Integrated Design Data Schema

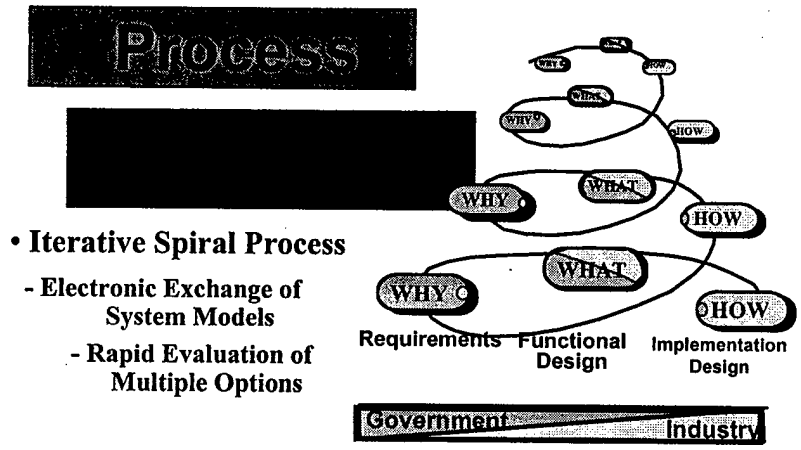
Common Project Data Repository
Integrated Product Process Model Format

Together, these will facilitate --

An unprecedented quality of enterprise-wide, collaborative decision making across the acquisition life-cycle...

PROCESS

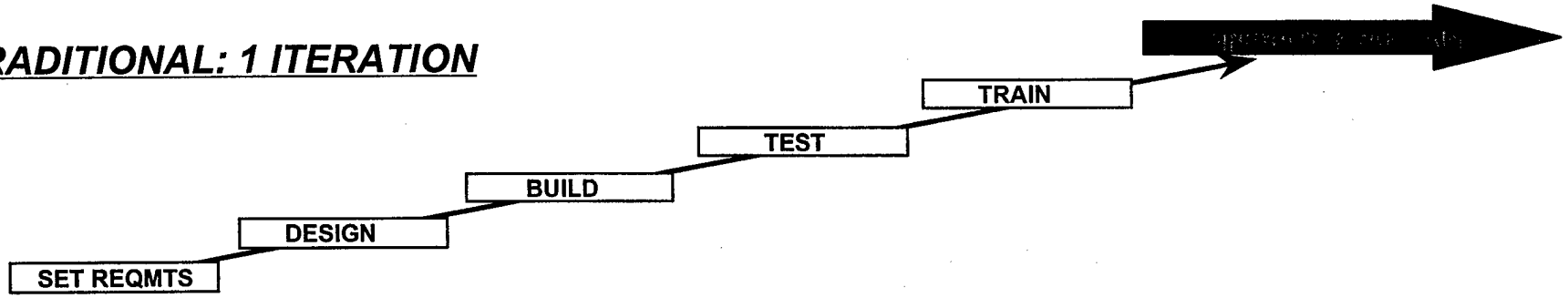
Iterative Acquisition Process



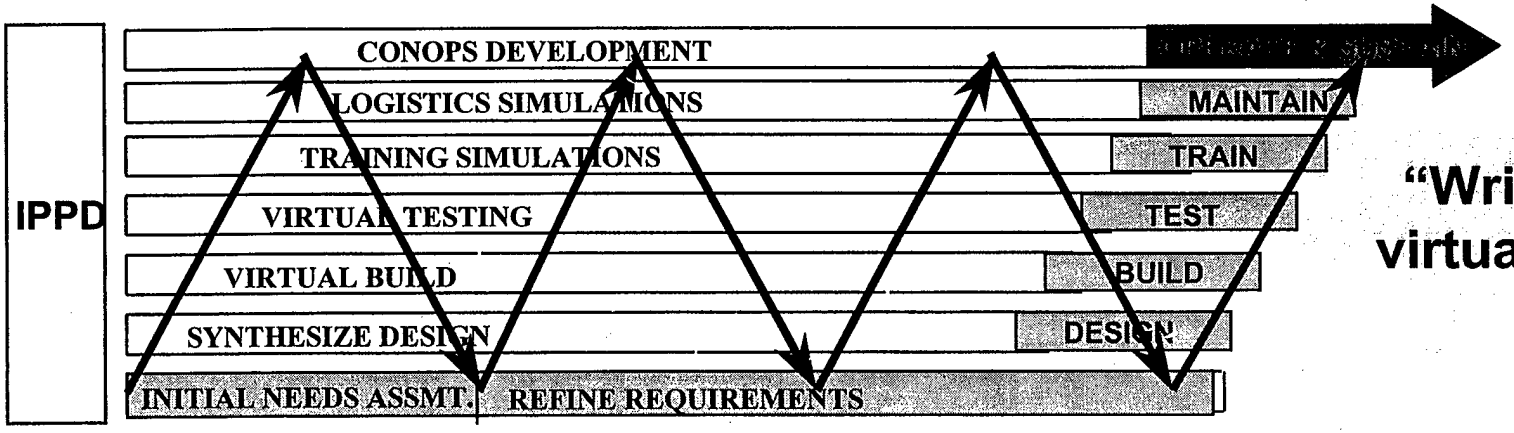
- **Iterative Spiral Process**
  - Electronic Exchange of System Models
  - Rapid Evaluation of Multiple Options

PROCESS

TRADITIONAL: 1 ITERATION



SBA - MULTIPLE ITERATIONS (MULTIPLE DESIGN LEARNING CYCLES)



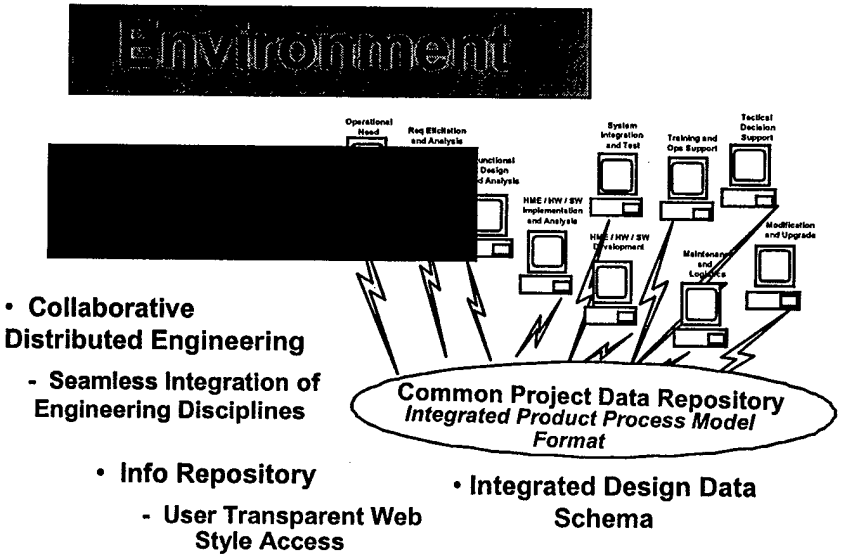
"Wring-out" virtual system

Complete understanding across all functions prior to locking requirements, designs and processes.

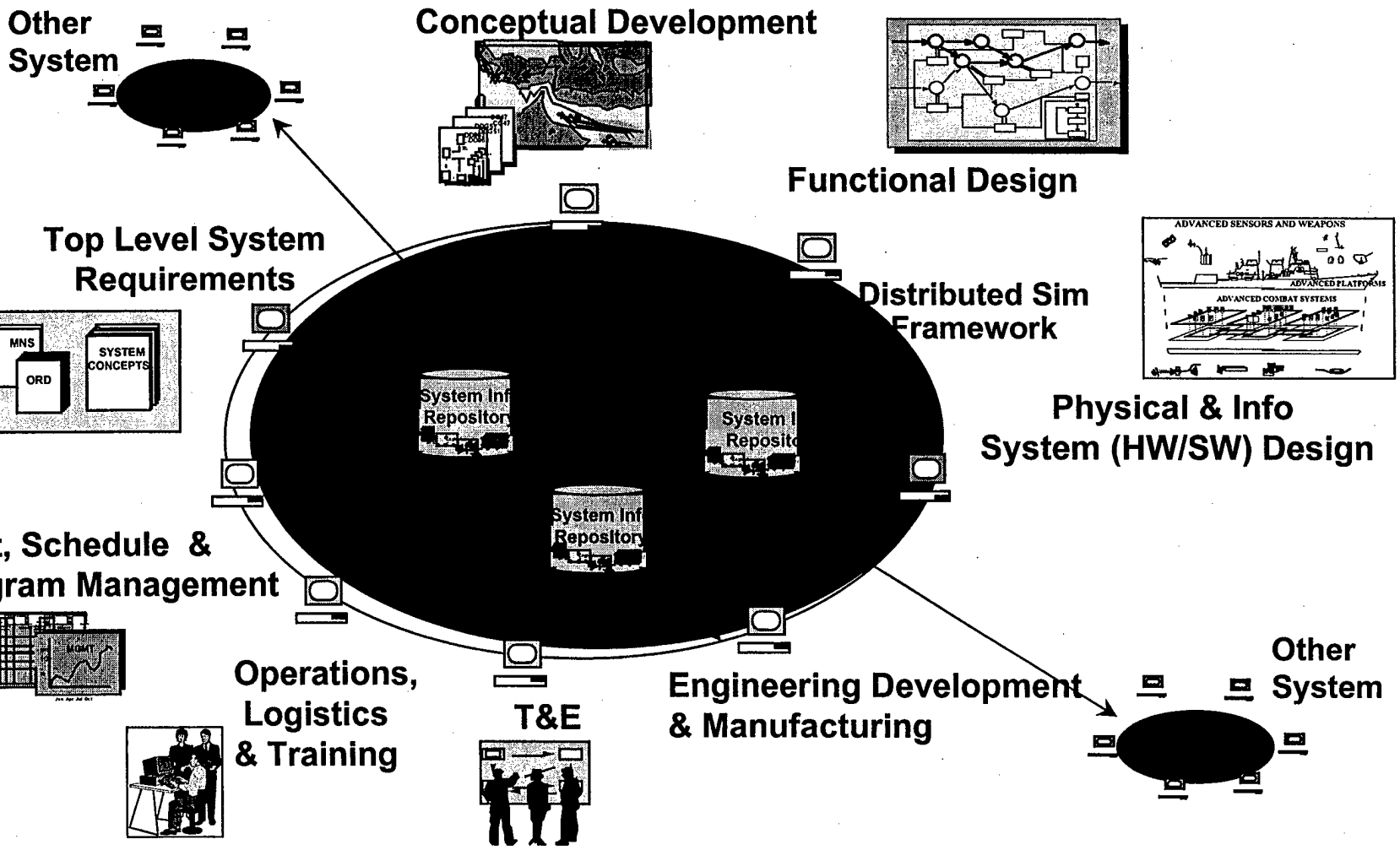
ENVIRONMENT

Integrated Advanced Engineering and Management Enterprise

- **Collaborative Distributed Engineering**
  - Seamless Integration of Engineering Disciplines
- **Info Repository**
  - User Transparent Web Style Access
- **Integrated Design Data Schema**



SBA OPERATIONS CONCEPT

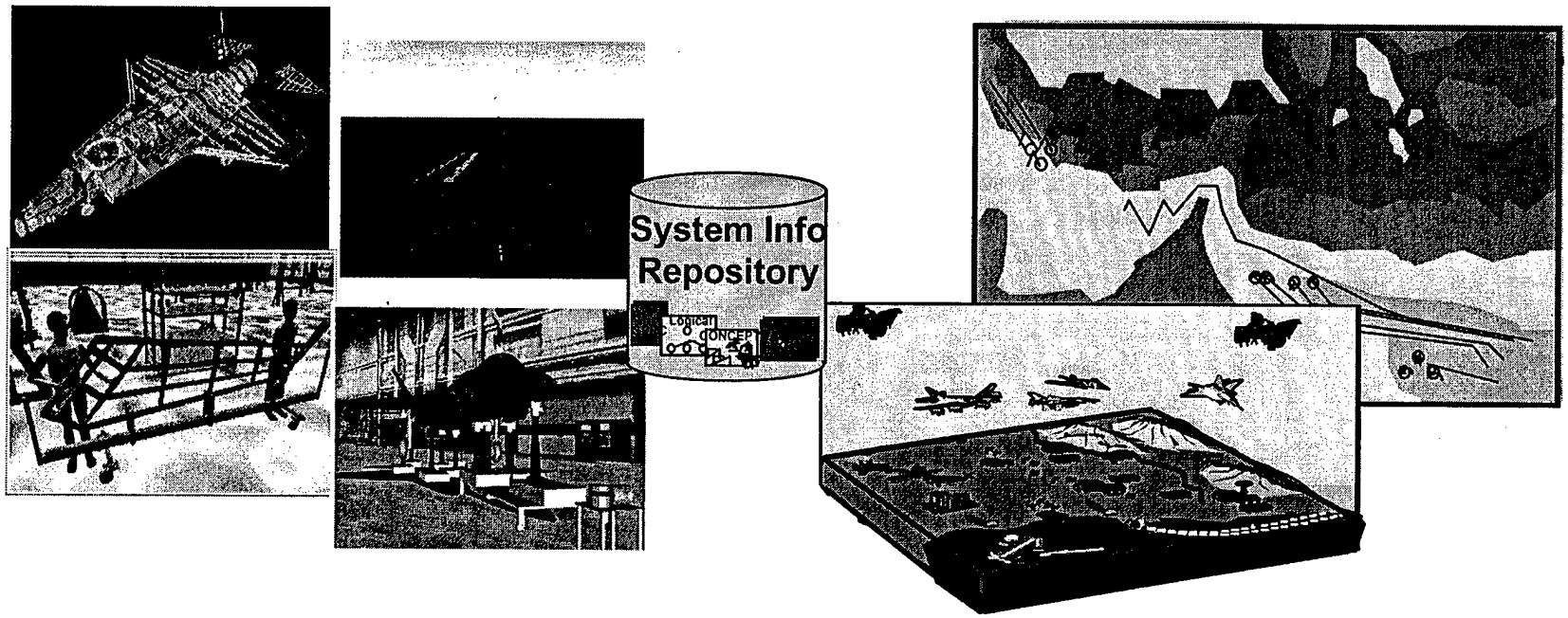


Extensive Re-use Within Phases and Across Acquisition Programs

SPECTRUM OF TOOLS PARTNERSHIP

Virtual Prototypes

Synthetic Environments



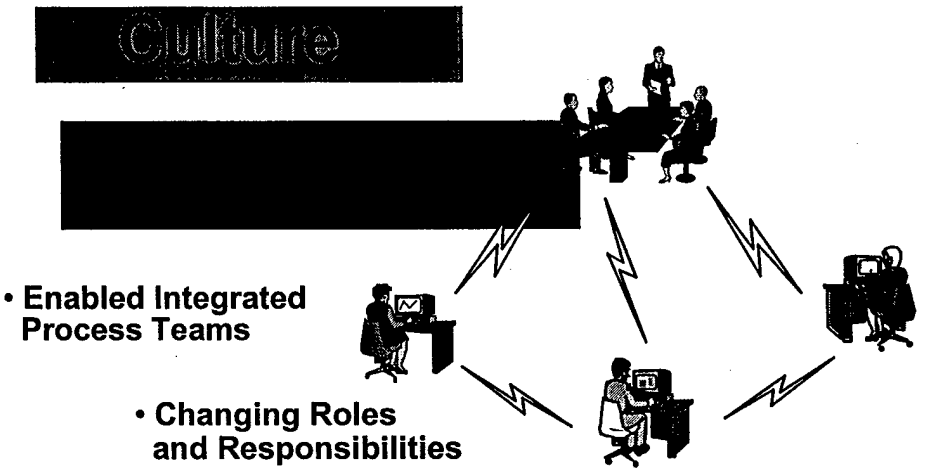
Industry

Government

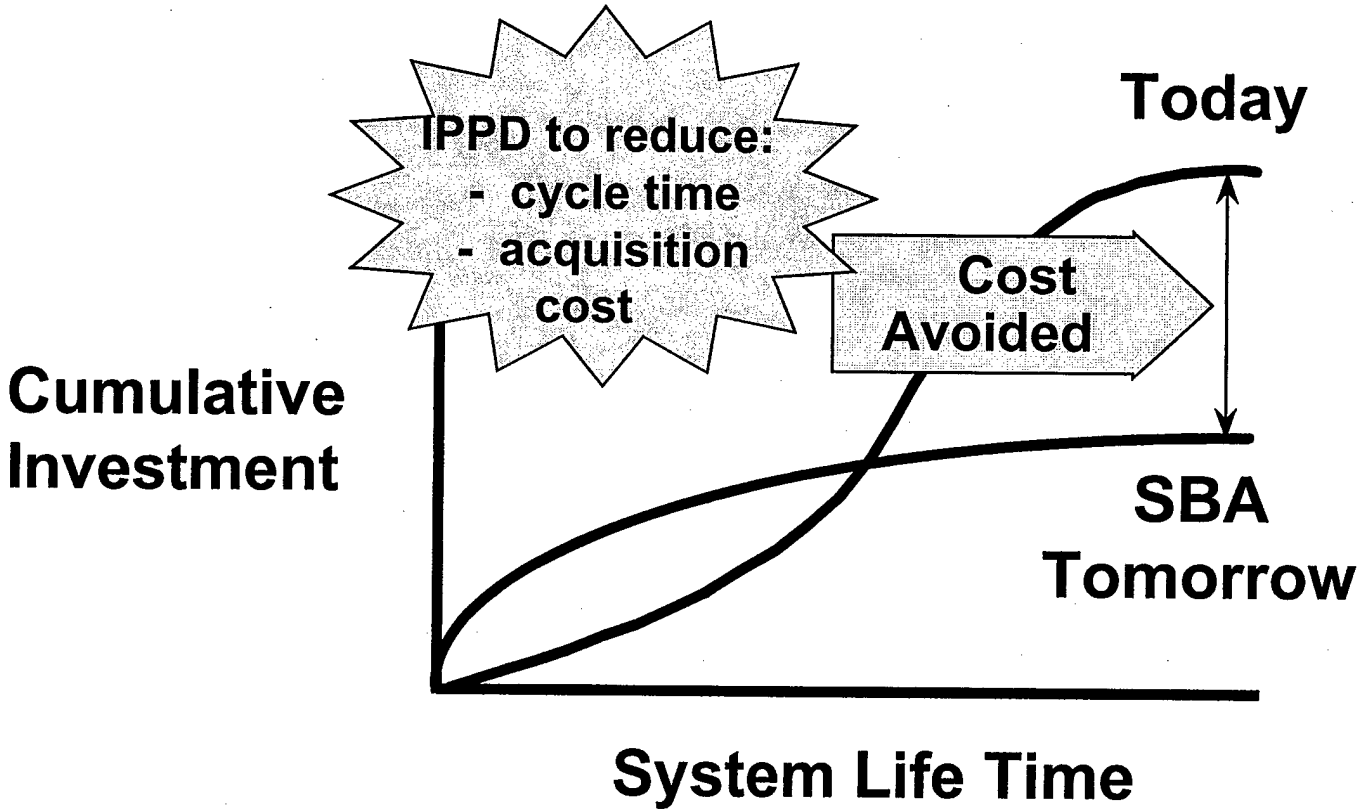
CULTURE

Evolved Acquisition Culture

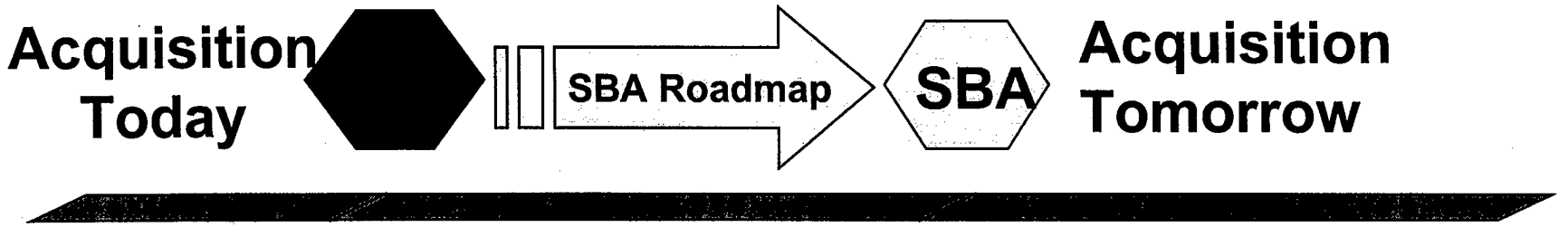
- **5000 Policy**
  - Enabled Integrated Process Teams
  - Share M&S used in Source Selection
- **Strategy**
  - Commit early to M&S
- **Education**
  - Changing Roles and Responsibilities
  - New core body of knowledge
- **Industry**
  - Share M&S through central repository



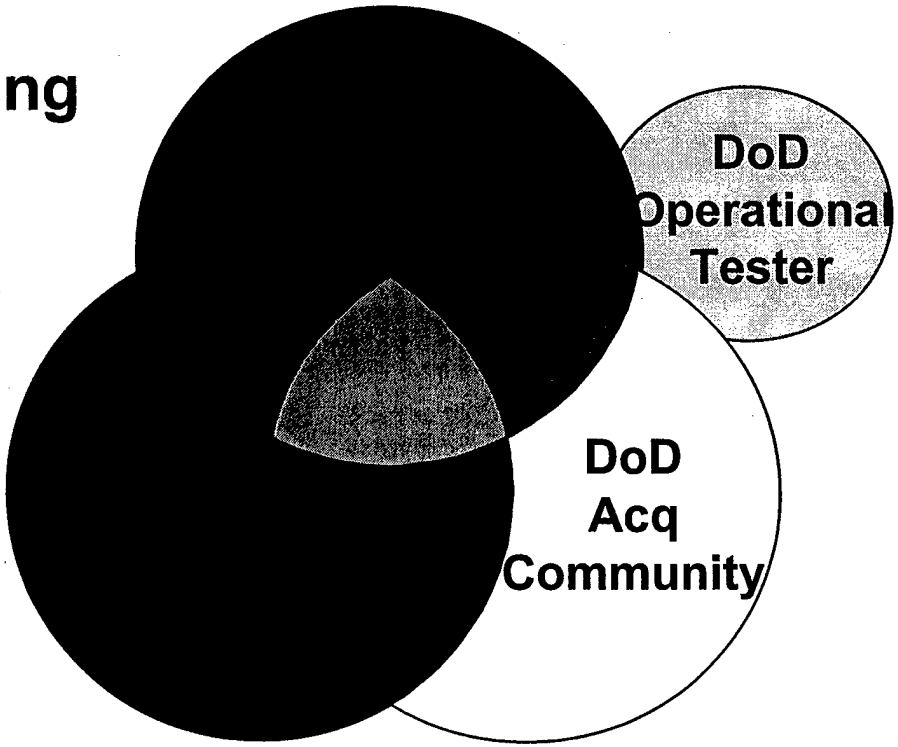
SBA PAYOFF


IPPD to reduce:
- cycle time
- acquisition cost
Today
Cost Avoided
Cumulative Investment
SBA Tomorrow
System Life Time

SBA -- A WORK IN PROGRESS



The team making it happen...



SBA Roadmap
CATEGORIES OF RECOMMENDATIONS

Work-in-progress

- Management
- Operational Architecture
- Systems Architecture
- Technical Architecture
- Policy & Legislation
- Education & Training
- Industry

Work-in-progress

Key Concepts From the Roadmap

Distributed Product Description (DPD)

- 3-dimensional system representation, along with associated process data (system function, requirements, manufacturing processes, cost data, etc.)

Distributed/Industry Resource Repository (DIRR)

- Collection of pointers constituting a web technology-based distributed repository of tools, information resources, and generic infrastructure components for use within and reuse across acquisition programs.

Collaborative Environments (CE)

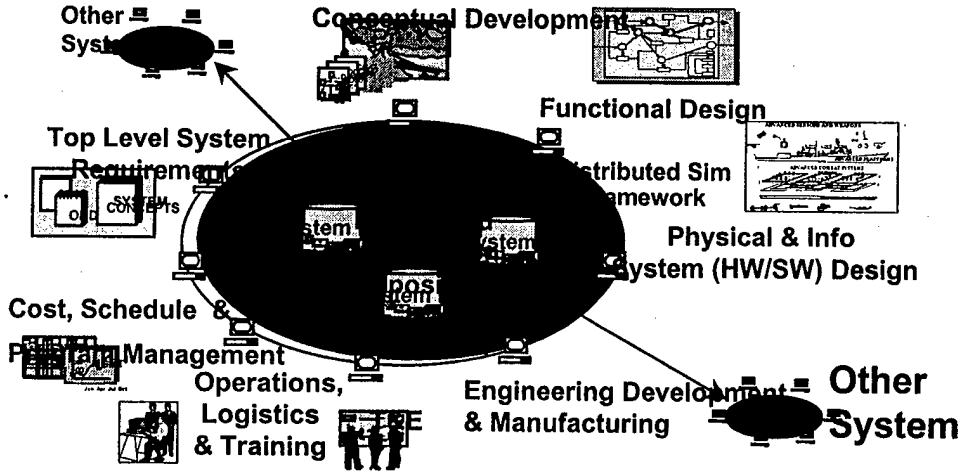
- An enduring collection of resources, people, processes, and tools assembled to attack a given problem
  - focused on a critical mission area *(such as Strike Warfare)*
  - focused on product orientation *(such as a Ship Product Area)*

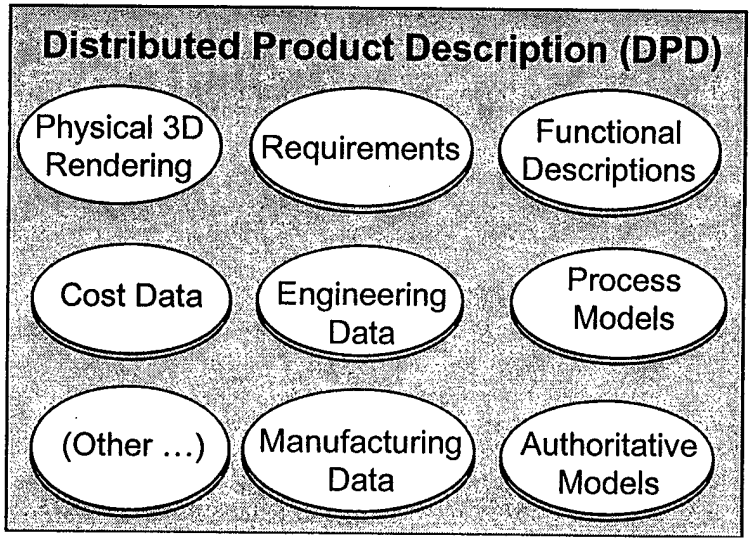
Data Interchange Formats (DIFs)

- Relevant standard (DIFs) to enable the SBA architecture

KEY CONCEPT
Distributed Product Description (DPD)

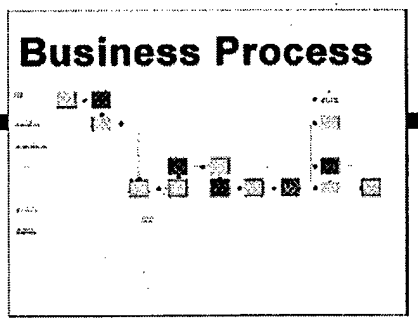
- In its simplest form, a 3-dimensional representation of a system, along with associated process data
  - Functional information (what does this thing do?)
  - Requirements information (why do we need this?)
  - Manufacturing information (what special tooling do we need to produce it?)
  - Cost information (how much does it cost?)
- Has other features like "user selectable views"



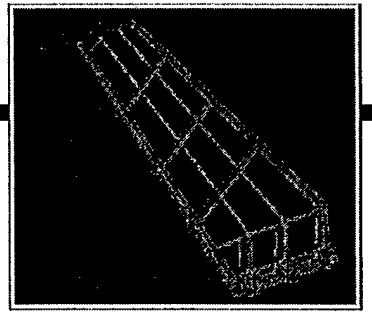


VIRTUAL PROTOTYPES THROUGHOUT THE SYSTEM LIFE CYCLE

Enterprise Prototype



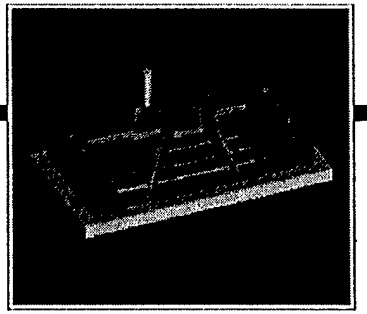
Relational Design and Product Prototype



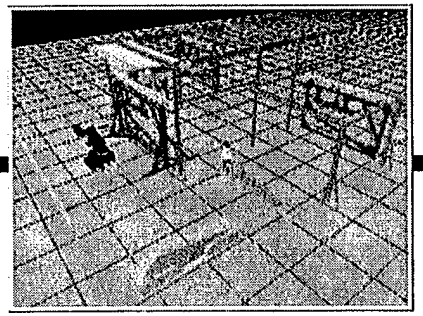
Support Prototype



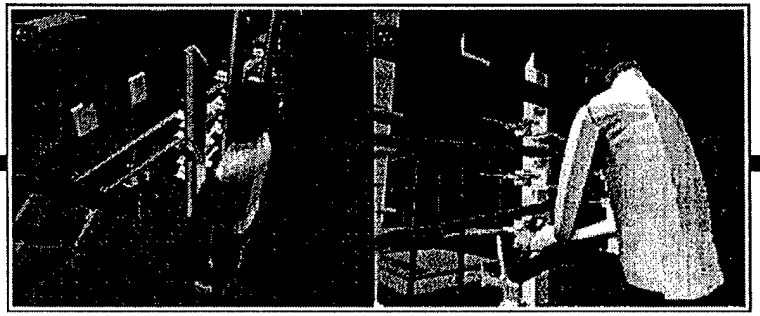
Fabrication Prototype



Factory Prototype



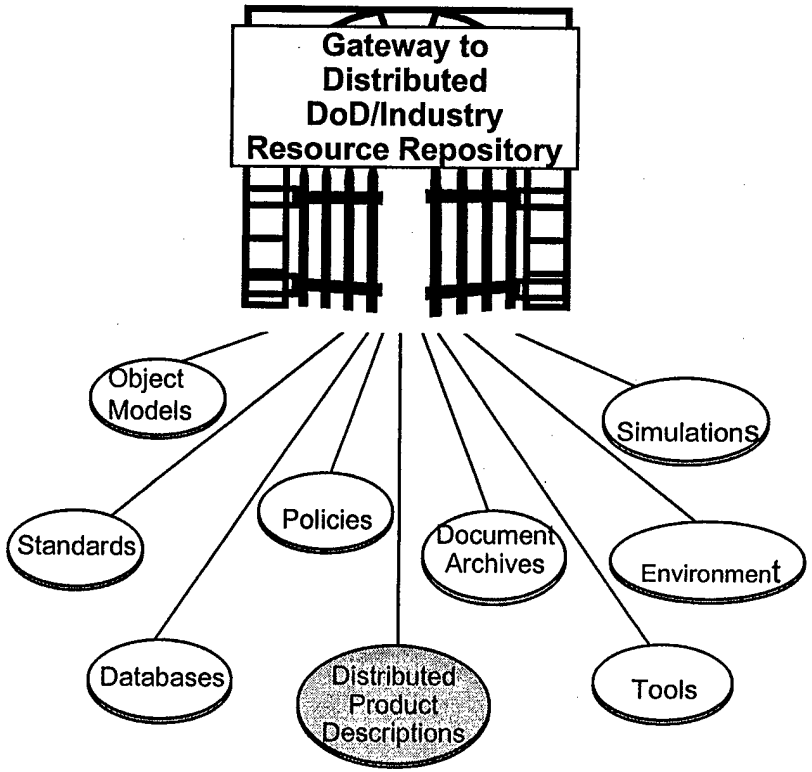
Assembly Prototype



Commitment to Virtual Prototypes Is Key To Realizing Significant Cycle Time and Cost Reductions

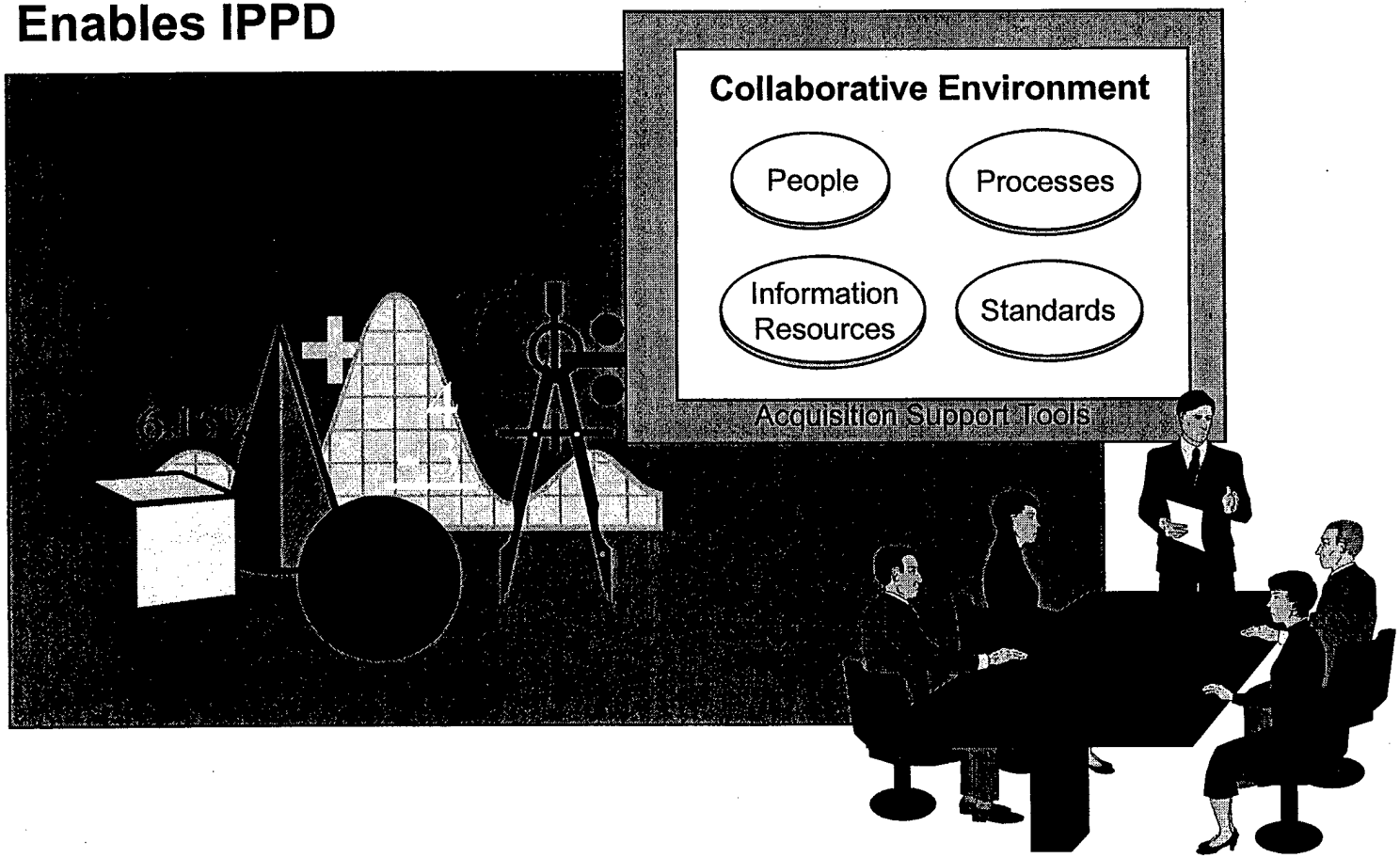
KEY CONCEPT
DoD/Industry Resource Repository (DIRR)

- **A collection of pointers constituting a web technology-based distributed repository of tools, information resources, and generic infrastructure components for use within and reuse across acquisition programs**
- **The union of capabilities provided by all Collaborative Environments.**



KEY CONCEPT
Collaborative Environments (CE)

- **An enduring collection of resources, people, processes, and tools assembled to attack a given problem**
- **Enables IPPD**



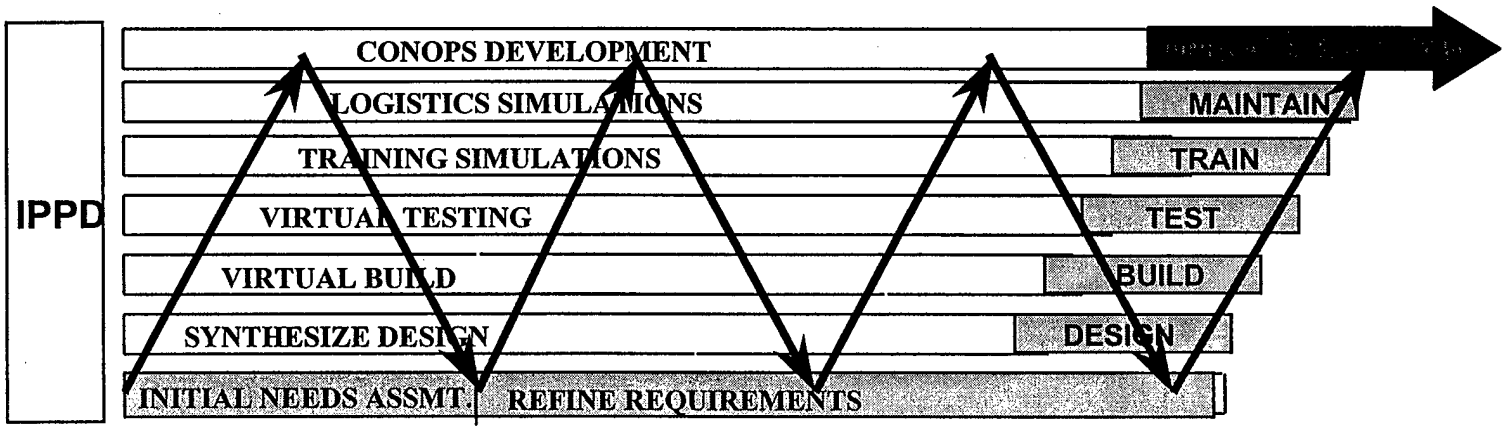
Possible Focuses

Can be organized by mission area, product area, susbsystem, etc

- focused on a critical mission area *(will cross programs)*
  - Strike Warfare
  - Land Warfare
- focused on product orientation *(will cross programs)*
  - Tanks
  - Ships
- subsystem *(may or may not cross programs)*
  - Radar
  - Etc

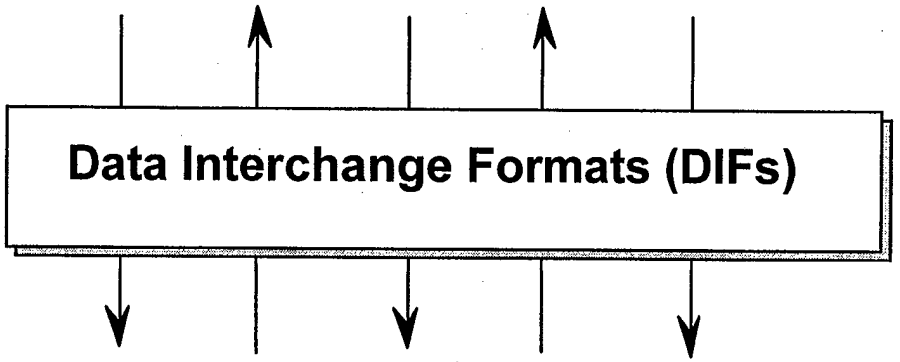
Results of Collaborative Environments

- Collaborative Environments will reach into the DoD/Industry Resource Repository and grab Distributed Product Descriptions
- Collaborative Environments will reuse and share models/sims/data across the Collaborative Environments
- A way of organizing teams to leverage M&S - foster reuse and interoperability

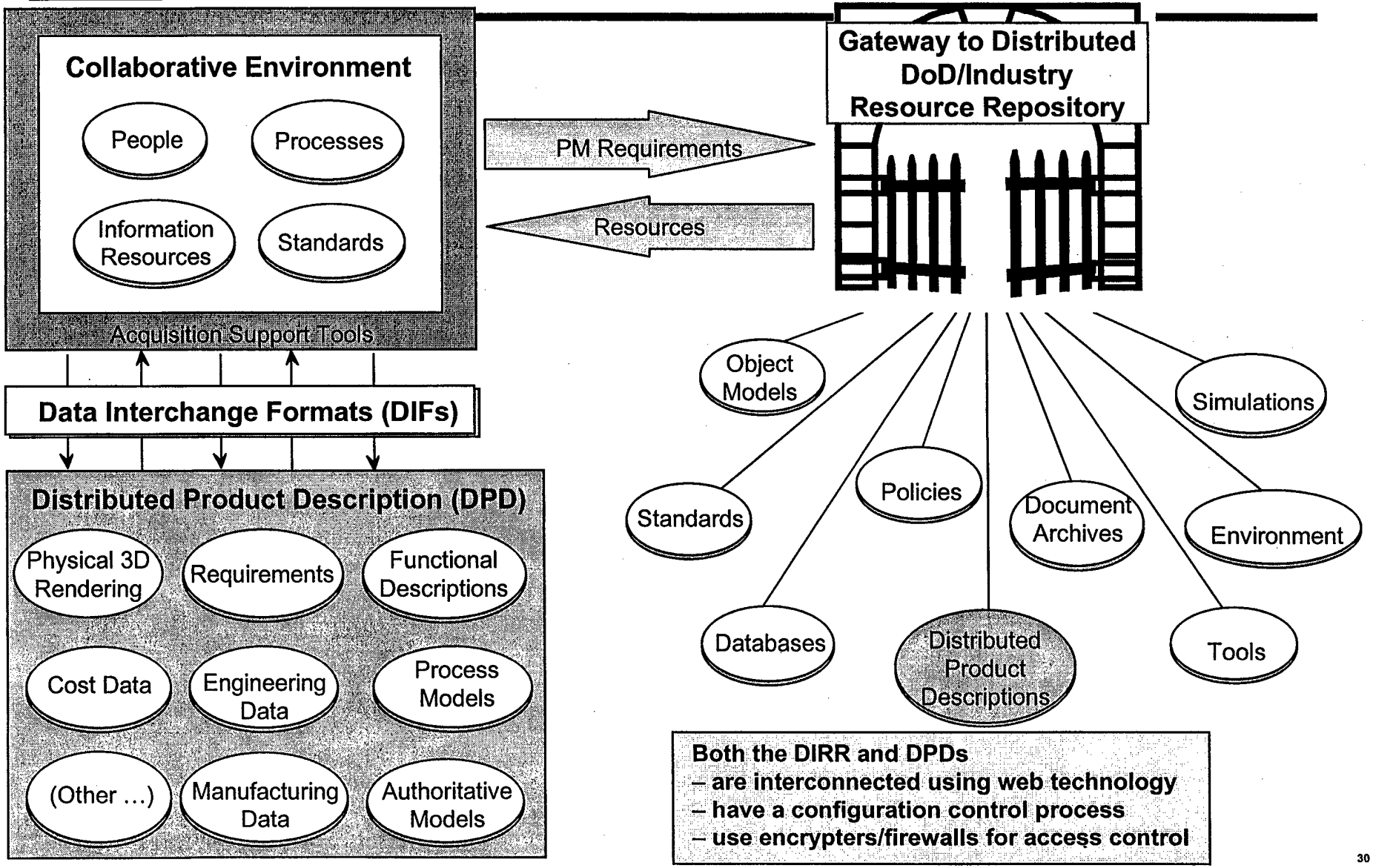


KEY CONCEPTS
Digital Interchange Format (DIF)

- Will be an extension to existing DIFs where they currently exist, such as SEDRIS
- Will be the "go between" for DPDs and the outside world (DIRR, etc)
- Will propose DIFs to DMSO Common Technical Framework/data std portion and the Joint Technical Architecture
- The essence of our SBA technical architecture



TOP-LEVEL VIEW OF SBA SYSTEMS ARCHITECTURE



Both the DIRR and DPDs
- **are interconnected using web technology**
- **have a configuration control process**
- **use encrypters/firewalls for access control**

Recap: What is SBA?

- **SBA is a robust M&S engineering environment --**
  - Starting early, from initial requirement & concept
  - Intensive "wringing-out" in synthetic, collaborative environment of cost, function, performance across system life cycle
  - Reuse of M&S across system life cycle, across programs/services
- **SBA is a revised acquisition process --**
  - Integrating Requirements, Acquisition, Training, Operations, Sustainment, T&E, etc functions using collaborative environment
  - Rapid, multiple assessments of trade space prior to locking requirements
  - Thorough understanding early of total ownership cost implications of performance requirements & design
- **SBA is cultural change --**
  - New educational curriculum
  - Empowered collaborating teams, including industry partners
  - Up-front emphasis & investment on M&S
  - Increasing reliance on M&S to reduce design risk

Current S&T Efforts

- **Army BAA (TARDEC - Dual Use S&T Program: $9M Fed Funds)**

  Develop/mature/commercialize SBA technology to reduce acquisition costs:

  - Product modeling to unify reqmts, product data, performance, cost.
  - Data management across the system lifecycle.
  - Collaborative technologies for live interaction of user, engineering, support enterprise while accessing product data and analysis resources.

- **Navy BAA (NRL)**

  Develop Distributed Collaborative Engineering Environment for Navy systems aggregated to Battle Group of Battle force:

  - Build on effort to link major ship, aircraft and commercial facilities into a Distributed Engineering Plant (DEP) to allow Battle Group level development & test of hardware in the loop.
  - Extend the DEP across the full acquisition cycle, for both industry and government partners.

Planned Experimentation and Technology Development

- **OSD and Services will sponsor short-term experiments designed to push ahead early formation of CEs, DPD, and DIFs.**
  - FY00
  - Largely known players with Service endorsement
- **Short Term Experiments will be followed by longer term efforts specifically intended to "fill the gaps" in the Roadmap technical approach.**
  - FY01-03
  - Services will solicit proposals.
- **Architecture Development & Standards Group (ADSG) will focus the activity toward a common approach for Services and industry.**
  - The ADSG will form late in FY99.
  - Industry support will be required.

Examining FAC Concept

SBA-LIKE PROGRAM ACTIVITIES

Joint Strike Fighter - Integrated across acquisition phases; reuse across Services

- **Virtual Strike Warfare Environment: "Leave-behind reusable technology" for AOAs, T&E, training - developers, warfighters, maintainers, virtual prototypes and HWIL.**
- **Core suite (engineering - campaign-level M&S) across Services reviewed quarterly**
- **Single common database for Logistics Modeling Environment: RM&S, cost, manpower, training**
- **Joint Interim Mission Model (Requirements, CONOPS, system of system trades) available to other programs via DMSO's M&S Resource Repository**
- **Joint Common Cost Model developed with industry**

SBA-LIKE PROGRAM ACTIVITIES (CONT)

Grizzly - M&S Effort Structured to Control Cost & Mitigate Risk

- **Integrated Systems Model: End-to-End Digital Simulation integrating all M&S; actual control algorithms.**
- **Reduced redesign time for commanders control station; optimized vehicle layout; reduced physical prototyping; virtual tested in different terrain.**

SBA Key Contacts

OSD	Robin Frost, OUSD(A&T)	(703) 695-2300
Army	Ellen Purdy , OASA(ALT)	(703) 604-7006
CE BAA	James Overholt, TAREC	(810) 574-6299
Air Force:	Major Gerry Smithers, SAFXO	(703) 588-7191
Navy	John Bilmanus, Nav Acq Ref	(202) 610-7022
CEE BAA	Henry Ng, NRL	(202) 767-6023
DMSO	Col Ken "Crash" Konwin	(703) 998-0660
Ind Strg Gp	Steve Olson, Raytheon	(703) 876-1942

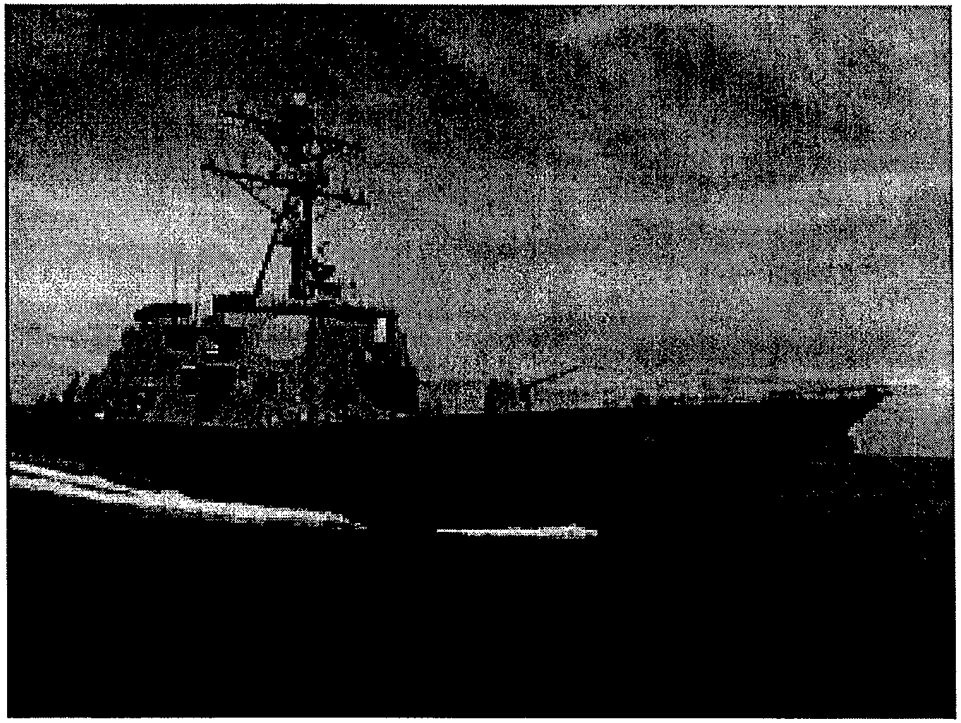
SBA Special Interest Area

http://www.msosa.dmso.mil/sba/

M&S Effectiveness Study

http://www.acq.osd.mil/te/pubdocs.html

ADVANCE PLANNING BRIEFING TO INDUSTRY



APRIL 1999

CAPT Jay Hixson
Commanding Officer
HixsonRL@navair.navy.mil



Welcome



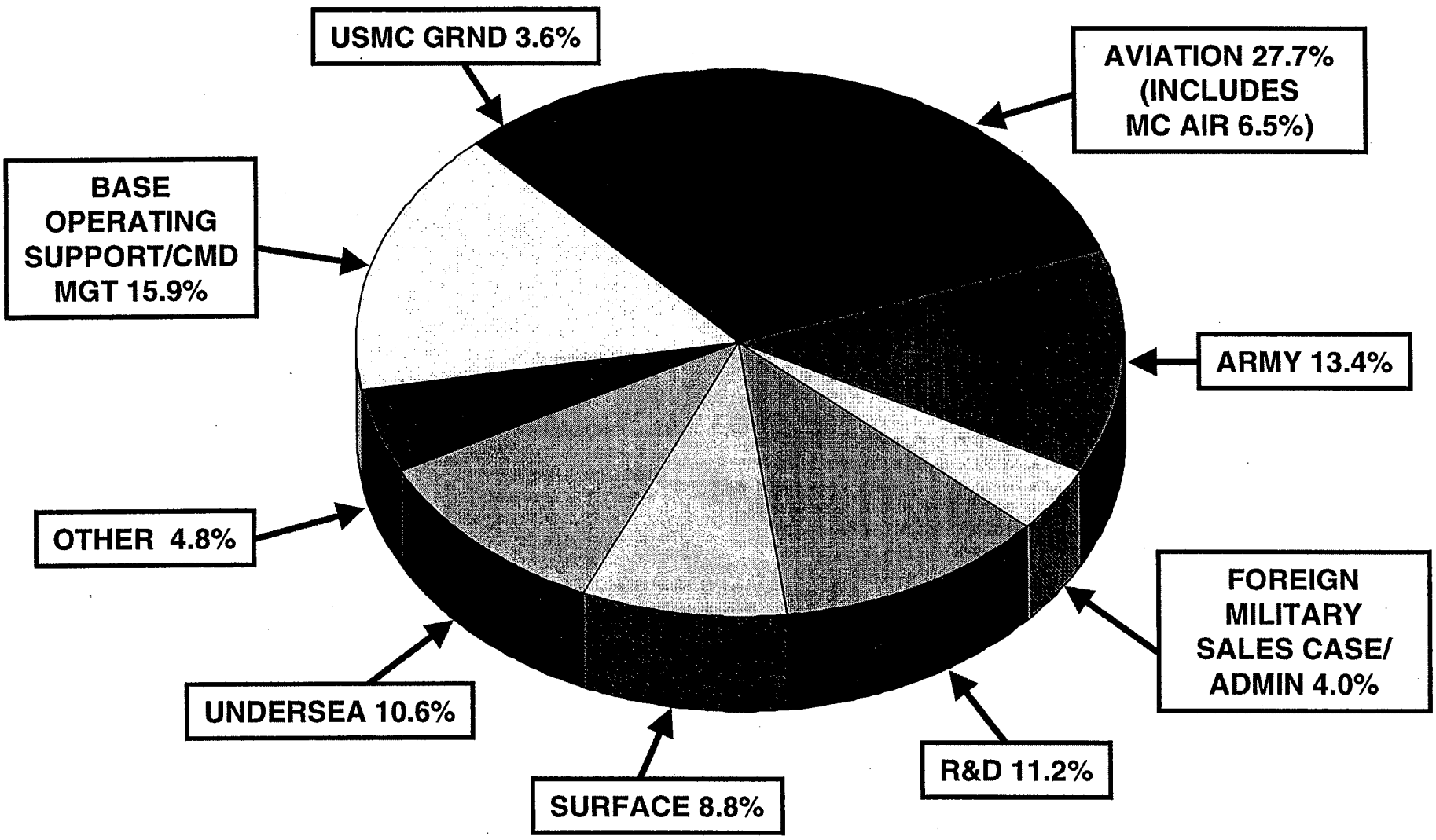
- **I Need Industry Help to Perform My Mission**
- **Honest Dialog, Open Door Policy to CO**
- **Integrated Teams**

Current Initiatives/ What's on My Mind

- Non Traditional Customers and New Product Areas
  - Joint Special Operation Forces
  - National Institute of Justice
  - Advanced Distributed Learning
  - Law Enforcement/Public Safety

* So We Can Support Our Traditional Customers

FY99 WORKYEARS
BUDGETED TOTAL 1069



Current Initiatives/ What's on My Mind (Con't)

- **Increased Partnerships**
  - Partnership Building with UCF
  - Immersion Lab
  - Memorandum Of Understanding with National Center for Simulation
- **Contractor Performance Assessment Reporting System (CPARS)**

Current Initiatives/ What's on My Mind (Con't)

- **Metrics: Keeping Promises**
  - **Training System Delivery Performance**
  - **Causes of Late Delivery**
  - **Contract Delivery Performance**
  - **Length of Time to Get Under Contract**
  - ***Reduce the Back Log of Undelivered Products**

Trends

- **Velocity of Learning (Applies to All Product Areas)**
  - The Teams That Learn Fastest Win
  - Two Dimensions
    - The Ability to Deliver Information Fast
    - The Ability to Do Something With the Information Fast
  - Includes
    - Team Dimensional Training
    - Decision Making Under Stress
    - Human/machine Interface
- **Deployability; Aboard Ship**



Trends (Con't)



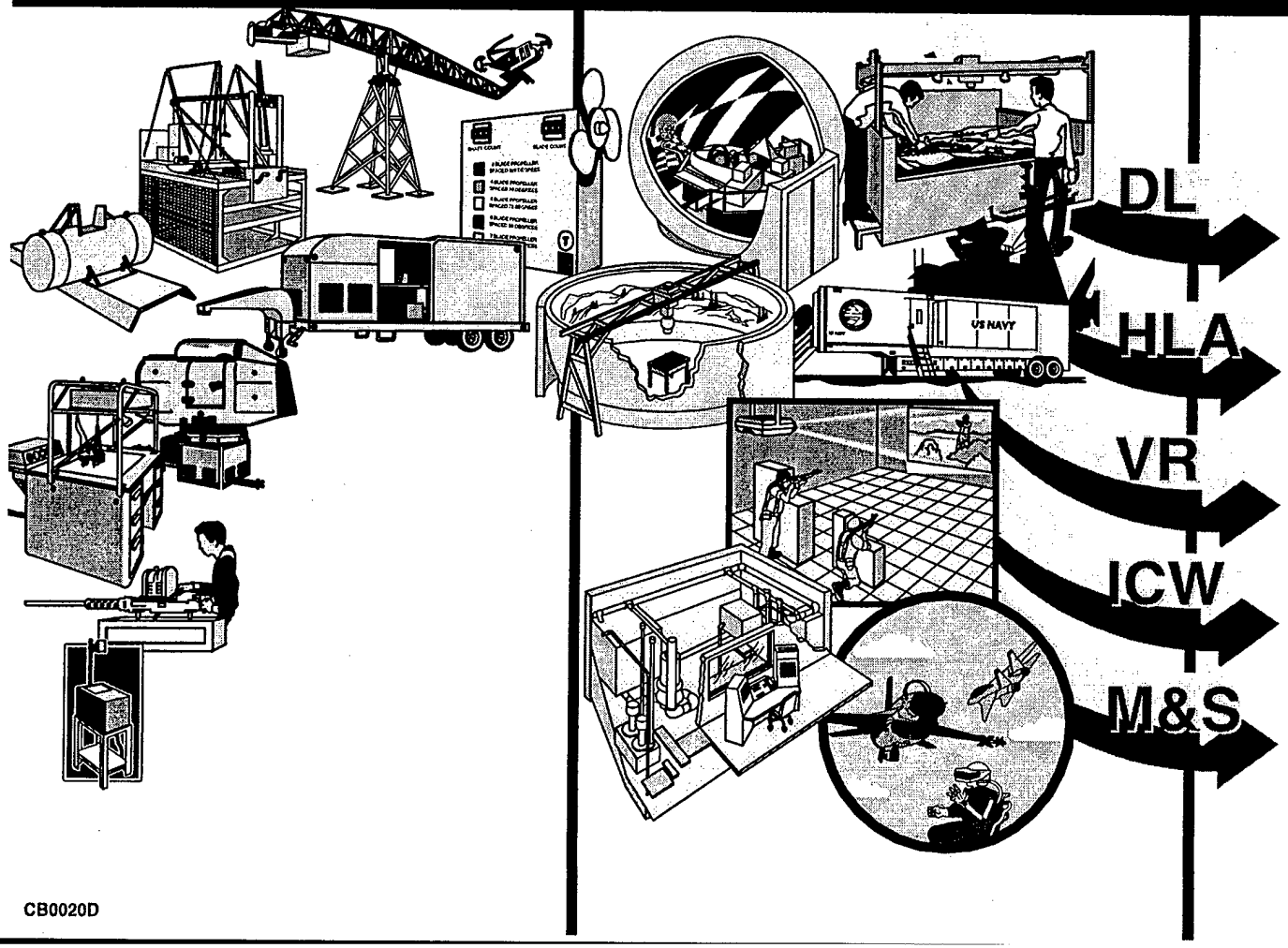
- **Distributed Learning / Training (2 Dimensions)**
  - **The Network**
  - ***Gozinta and Gozouta**
- **Cheaper, Faster, Better**

TRAINING SYSTEMS

NAWC
Training Systems Division
NAVAL AIR WARFARE CENTER

NAVAL AVIATION SYSTEMS TEAM

PAST **PRESENT** **FUTURE**



DL

HLA

VR

ICW

M&S

JOINT SYNTHETIC OPERATIONAL ENVIRONMENT

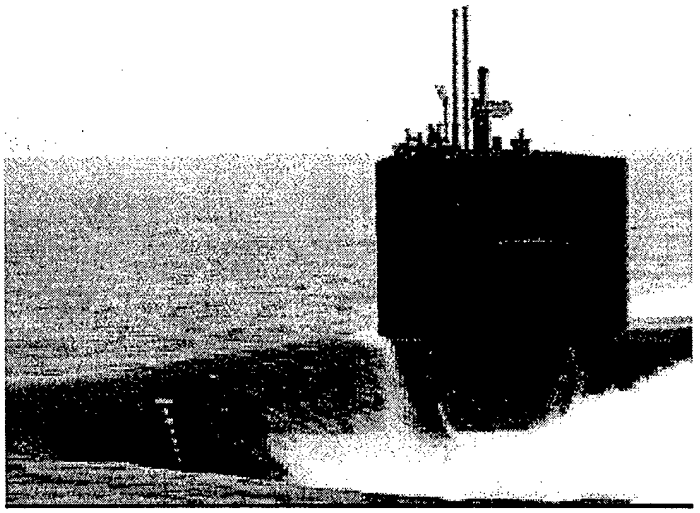
- DISTANCE LEARNING
- ADVANCED LEARNING METHODOLOGIES
- EXPERT TEAMS
- RECONFIGURABLE
- TRANSPORTABLE
- INTEGRATED
- DISTRIBUTED
- EMBEDDED
- NETWORKED
- CHEAPER
- SMALLER
- PLANNING/ REHEARSAL

CB0020D

Agenda

- Adjusted Times to Reflect "Potential for Contractor Action"
- Briefs Are Centered on Product / Service, Timing and Dollars.
- Navy Panel Discussion at the End.

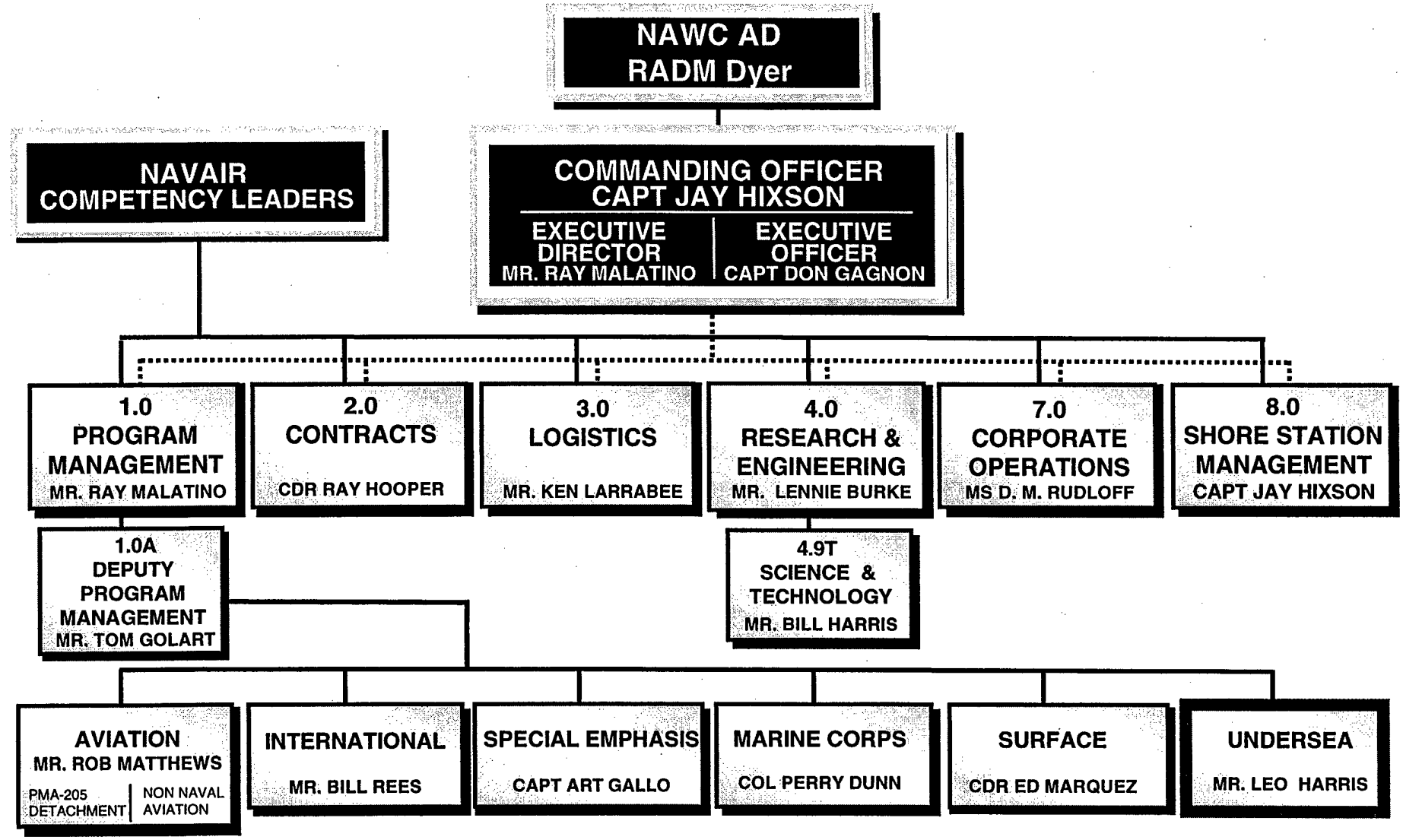
ADVANCE PLANNING BRIEFING TO INDUSTRY



APRIL 1999

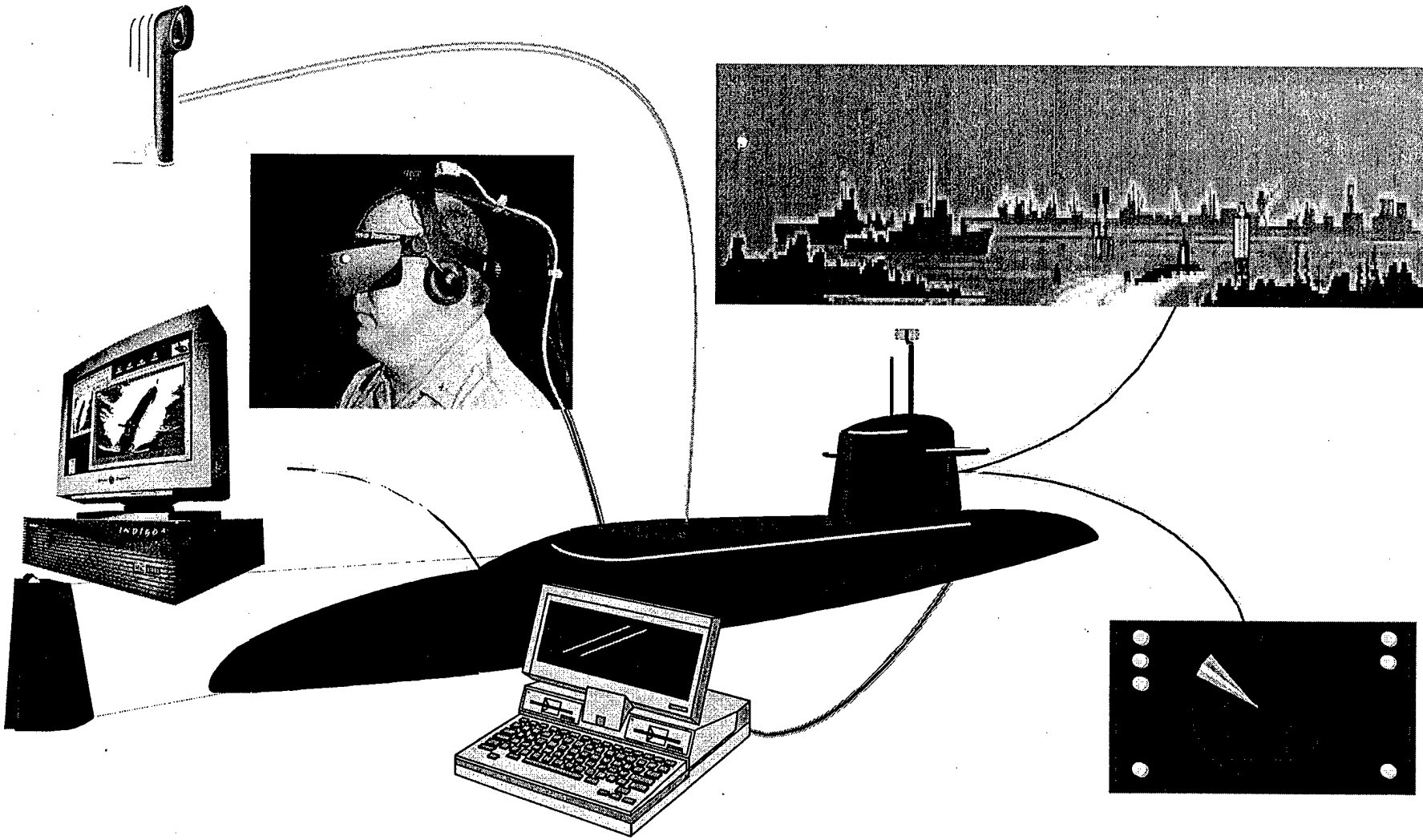
Mr. Leo Harris
Program Director, Undersea
HarrisEL@navair.navy.mil

ORGANIZATION STRUCTURE



CB0009E

21st Century Submarine Piloting & Navigation (SPAN) Trainer



21st Century Submarine Piloting & Navigation (SPAN) Trainer

- Replaces Existing SPAN Trainers
  - Supports Harbor Navigation and Piloting Training
  - Integrates with Virtual Environment Submarine Ship Handling Trainer
  - Provides Radar and Voyage Management Capability
  - Provides Navigation and Attack Periscope Visual Scene Capability
  - Utilizes Digital Plotter, Flat Panel Displays & DMA/ NIMA Charting Data for Timely Database Updates
  - Provides Fathometer, GPS, Fire Control Displays & Voice Activation/ Recognition Capability
- Contract Award: 2001
- Procurement of 6 Units
- Estimated Contract Value < $5M
- Point of Contact: Jim Behan (407) 380-4159 BehanJJ@navair.navy.mil

ADVANCE PLANNING BRIEFING TO INDUSTRY

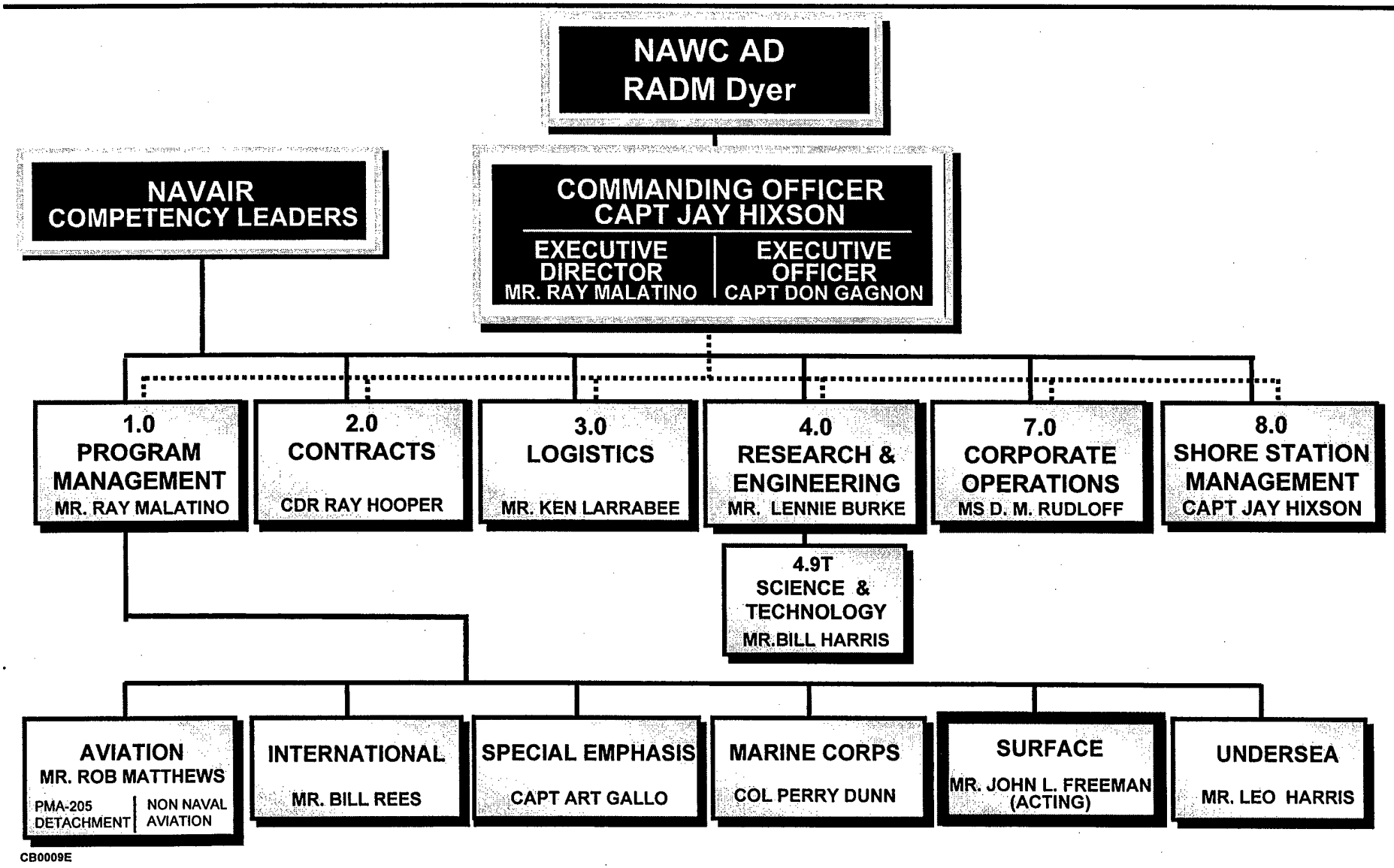


22-23 APRIL 1999

MR. JOHN L. FREEMAN
Director (Acting)
Surface Warfare Programs
(407) 380-4029

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ORGANIZATION STRUCTURE

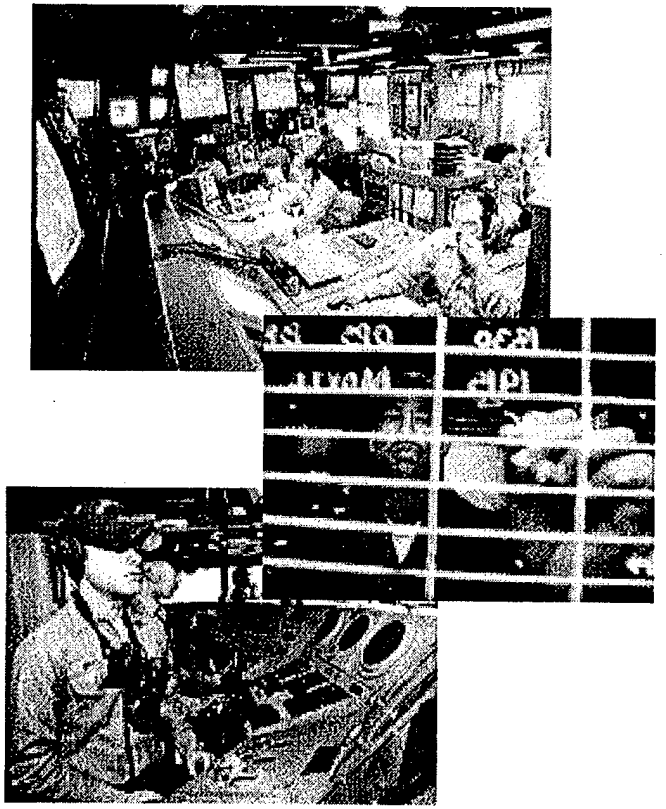


CB0009E

BACKGROUND/STRATEGY

- ***SPONSORS*** **NEED *CHEAPER, FASTER, BETTER* DELIVERY OF TRAINING SYSTEMS/TECHNOLOGIES THAT SUPPORT THE LATEST TRAINING METHODOLOGIES**
  - **Reduced total ownership costs**

- ***FLEET*** **NEEDS DEPLOYABLE, EMBEDDED TRAINING TECHNOLOGY WITH LESS TIME IN SHOREBASED CLASSROOMS**
  - **Optimal Manning**
  - **Workload Reduction**
  - **Reduce Shorebased Infrastructure**
  - **Focus on Fleet Concentration Areas**



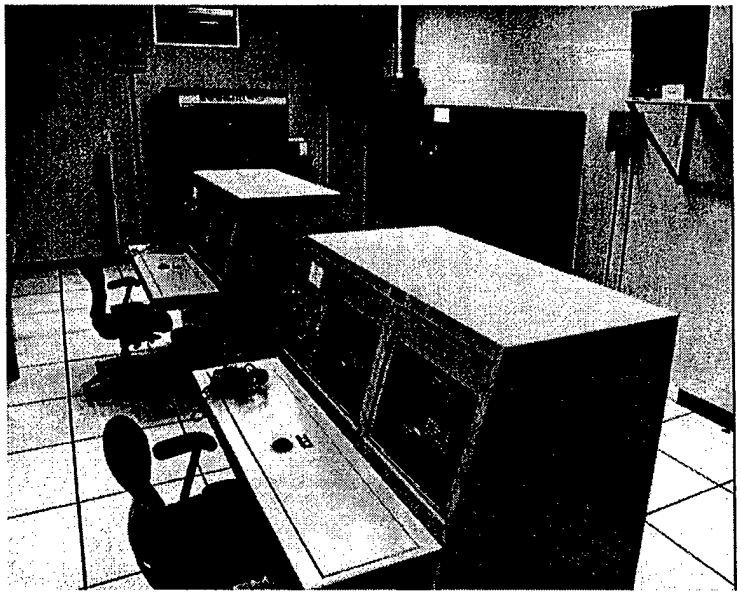
PLANNED ACQUISITIONS

- **REQUIREMENT: Provide modifications and upgrades to existing surface trainers at various sites. Modifications are fleet prioritized and include enhancements, rehosts, hardware/ software upgrades and other modernization efforts.**

- **CALENDAR YEAR OF AWARD: FY00**

- **EST VALUE: <$5M**

- **POC: Bob Kerr, (407) 380-4192**
  KerrRL@navair.navy.mil



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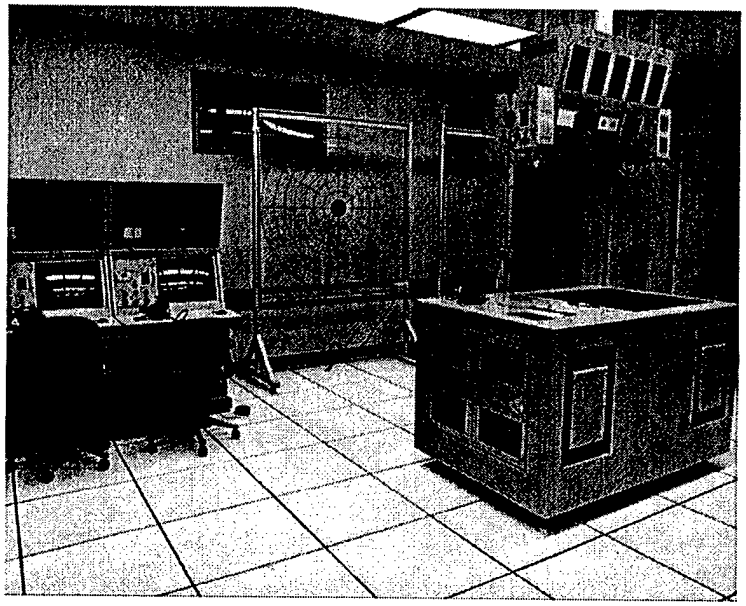
PLANNED ACQUISITIONS

- **REQUIREMENT: Provide Contractor Operation and Maintenance of Simulators (COMS) at SWOSCOL Newport; Great Lakes; and for Firefighting Trainer Sites**

- **CALENDAR YEAR OF AWARD:**
  - **Newport and Great Lakes - Aug 99**
  - **Firefighting - 1 Oct 99**

- **EST VALUE:**
  - **Newport - <$5M**
  - **Great Lakes - <$5M**
  - **Firefighting - >$10M**

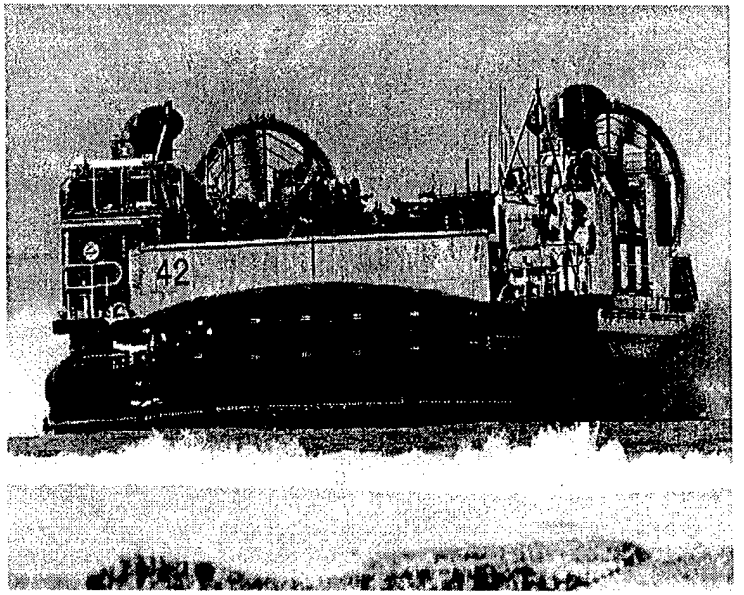
- **POC: Rocky Harrelson, (407) 380-4421, HarrelsonR@navair.navy.mil**



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PLANNED ACQUISITIONS

- REQUIREMENT: Modify Device 20G6 LCAC Full Mission Trainer (FMT) to match Craft undergoing Service Life Extension Program (SLEP)
- CALENDAR YEAR OF AWARD: 01
- # OF UNITS TO BE PROCURED:
  - LCAC FMT Serials #1 and #2
- EST VALUE: $5-10M
- POC: Jim Lau, (407) 380-4025, LauJR@navair.navy.mil



CB00030D1

POTENTIAL ACQUISITIONS

- **REQUIREMENT: Modify Firefighting Trainers located at Fleet Firefighting School, Afloat Training Group, Middle Pacific (ATGMIDPAC) to match the capabilities at Fleet Training Centers utilizing propane trainers**
- **CALENDAR YEAR OF AWARD: 02-?**
- **# OF UNITS TO BE PROCURED: One trainer with approximately 7 fireplaces including support equipment**
- **EST VALUE: $5M - 10M**
- **POC: Patrick Wong, (407) 380-8156**
  WongPC@navair.navy.mil



PLANNED ACQUISITIONS

- REQUIREMENT: Small Arms Marksmanship Trainer. Device 3F89, Great Lakes NTC. Incorporate recoil and sound, add shotgun.

CALENDAR YEAR OF AWARD: 01-02

- # OF UNITS TO BE PROCURED: 1
- EST VALUE: <$5M
- POC: Rick Lecky, (407) 380-8248, LeckyRL@navair.navy.mil



SMARTSHIP
INTEGRATED CONTROLS SYSTEM (ICS)
TRAINING PROGRAM

THE CHALLENGE

Implement selected "Smartship" technologies on existing CG-47, DDG-51, Amphibious Ships and Carriers to achieve optimum performance while reducing workload and operations and maintenance costs.

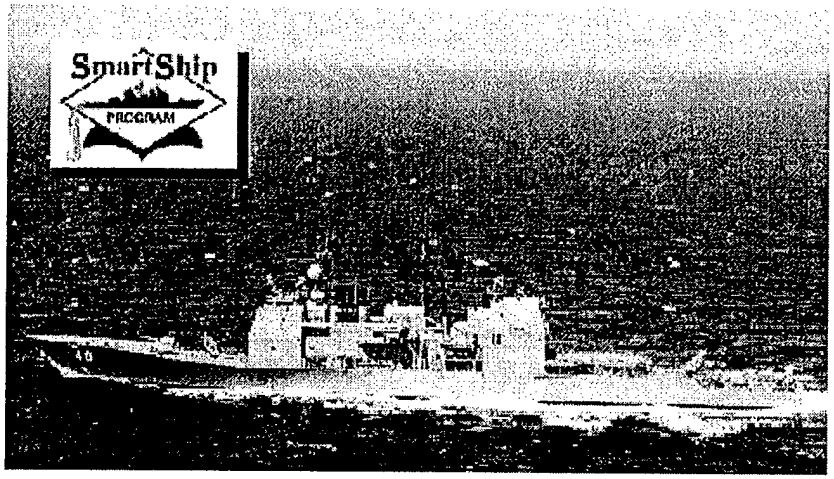
THE GOAL

Develop effective training programs that will maximize crew resources and support a total ship training environment.

CG-47 Upgrade: Litton, Woodland Hills, CA
Contract Award: Feb 99
Estimated Value: >$10M

CG-51 Upgrade: Contractor TBD
Contract Award: Late Summer 1999
Estimated Value: >$10M

Other Platforms: TBD
POC: Bob Kerr, (407) 380-4192
KerrRL@navair.navy.mil



POTENTIAL INDUSTRY INVOLVEMENT

- On-Board and Embedded Training Technologies
- Training Situation Requirements Analysis (TSRA)
- Front End Analysis (FEA)
- Technical Documentation/IETMs
- Training Systems for Waterfront, On-Board and Shorebased Training

ADVANCED LAUNCH, RECOVERY AND CONTROL SYSTEM (ALRCS)

THE CHALLENGE

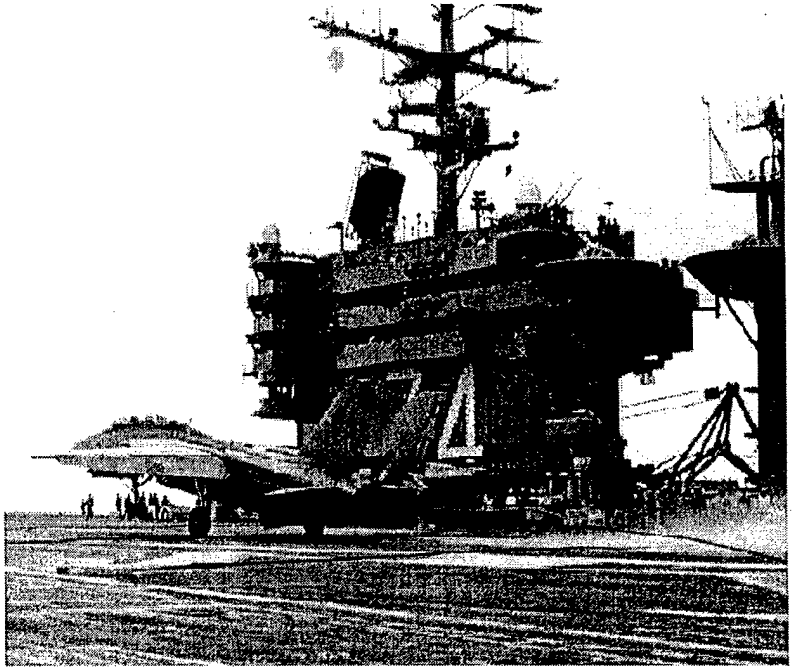
To develop an automated catapult control system that will provide multi-system monitoring in support of condition based maintenance.

THE GOAL

To implement technology that will reduce workload, improve safety, reduce total ownership costs and provide an organic, embedded training capability.

OPEVAL early 2005

POC: Jerry Best, NAWCTSD
Future Carriers Training Manager
(703) 415-4837
bestjw@navsea.navy.mil



POTENTIAL INDUSTRY INVOLVEMENT

- **Software Configuration Management**
- **Human Factors Engineering**
- **Front End Analysis (FEA)**
- **Interactive Electronic Technical Manuals (IETMs)**
- **Embedded Training Technology**

LPD 17 TOTAL SHIP TRAINING PROGRAM

THE CHALLENGE

Design the next generation amphibious ship to maximize performance, optimize manning and reduce total ownership cost.

THE GOAL

Develop effective and responsive training systems that allow for maximum flexibility in crew resources while focusing on a total ship training philosophy.

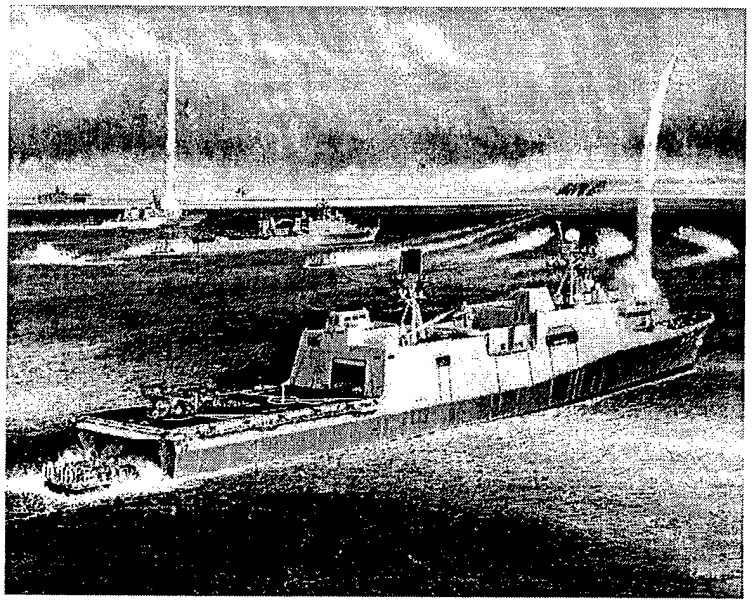
Full Service Contractor: Avondale Alliance
(Avondale, BIW, Raytheon, Intergraph)
Avondale, LA

LPD-17/LPD-18 Contract Award: Dec 98

Estimated Value: >$10M

POC: John Owen, (504) 437-3352
OwenJ@lpd17.navsea.navy.mil
Bruce Coleman, (407) 380-8271
ColemanLB@navair.navy.mil

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POTENTIAL INDUSTRY INVOLVEMENT

- Technical Manual conversion to IETM
- Naval Training Systems Plan (NTSP)
  - Maintain (Existing Platforms)
  - Develop (New Platforms)
- Training Technology Transition/Integration
- Develop FEA for Total Ship Training
- M&S for Design & Training applications

FUTURE CARRIER TOTAL SHIP TRAINING APPROACH

THE CHALLENGE

To develop a total ship training program that exploits emerging innovations to provide for a Continuous Learning Environment.

THE GOAL

Implement technologies that will allow effective management of training information, reduce total ownership costs, and provide for an organic, embedded training capability.

CVN-77 Design Contract Award : Dec 2000

CVNX currently in Concept Exploration.
Milestone 1 anticipated April 2000

POC: Jerry Best, NAWCTSD
Future Carriers Training Manager
(703) 415-4837
bestjw@navsea.navy.mil

POTENTIAL INDUSTRY INVOLVEMENT

- **Human Factors Engineering**
- **Front End Analysis (FEA)**
- **Naval Training System Plan (NTSP)**
- **Interactive Electronic Technical Manuals (IETMs)**
- **Embedded Training Technology**
- **Application of M&S for functional decomposition of "processes"**

CB00030D1

DD 21 TOTAL SHIP TRAINING PROGRAM

THE CHALLENGE

Design the next generation land attack destroyer and go *"Forward, from the sea..."* with only 95 sailors.

THE GOAL

Develop an effective and responsive total ship training program that assesses crew performance and provides the necessary training when it is needed.

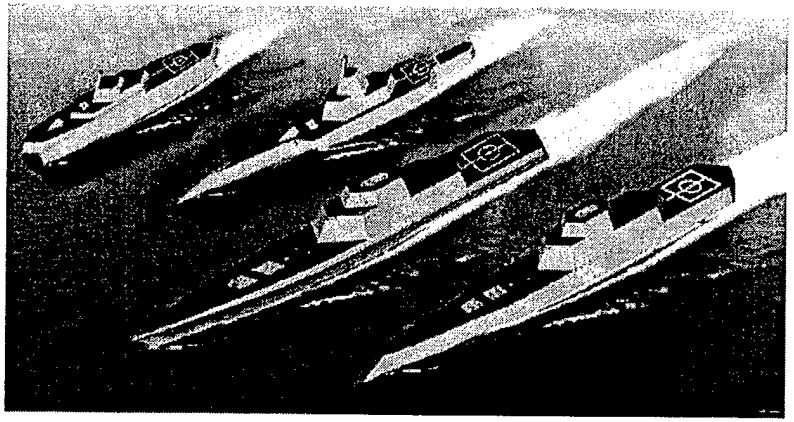
Contract Info:

- **Concept Exploration with 2 Teams**

***Blue Team*: BIW, Lockheed-Martin**
***Gold Team*: Ingalls, Raytheon**

- **"Down select" after Preliminary Design Review in 2001**

POC: Joe Villalonga, (407) 380-8524
VillalongaJM@navair.navy.mil

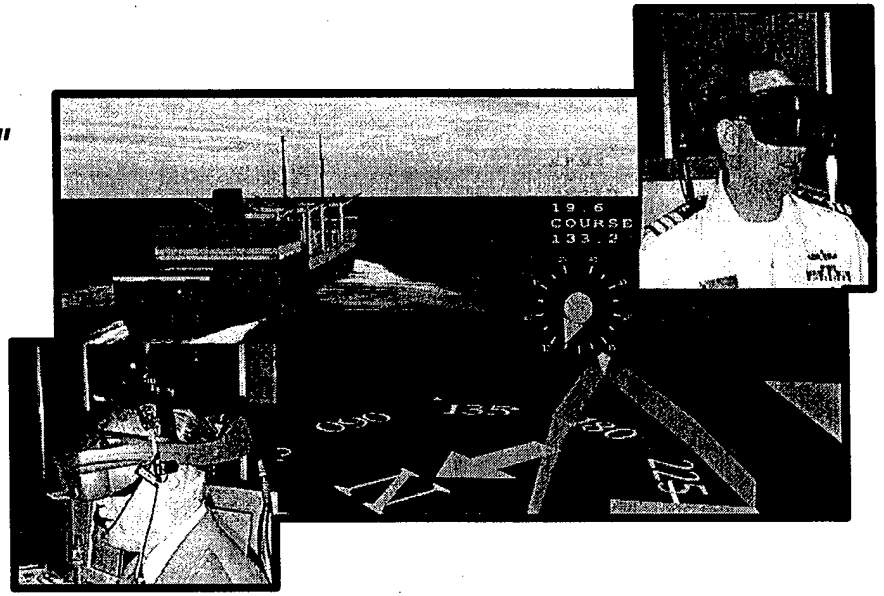


POTENTIAL INDUSTRY INVOLVEMENT

- **Front End Analysis (FEA)**
- **Human Systems Integration**
- **Navy Training Systems Plan (NTSP)**
- **On-Board, Embedded Training Technologies**
- **Shorebased and Waterfront Training Technologies**

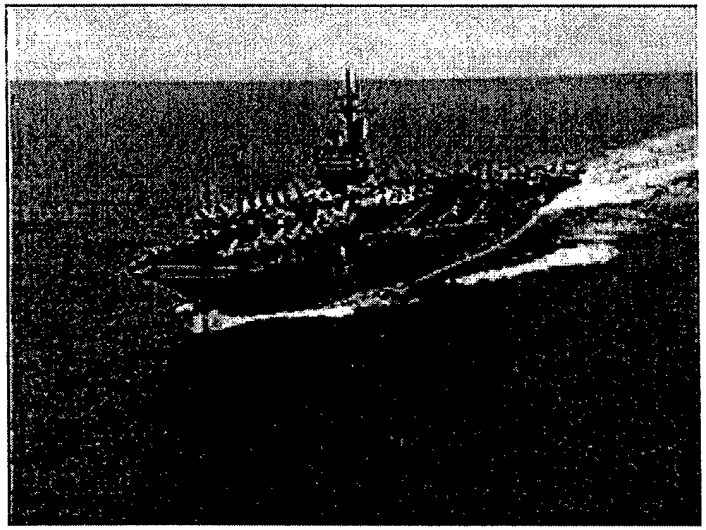
CONCLUSION/SUMMARY

- TECHNOLOGICAL ADVANCES ARE CREATING MANY NEW WAYS OF TRAINING
  - Requirements *"Pull"* vice Technology *"Push"*
- ACHIEVE REDUCED TOTAL OWNERSHIP COSTS (TOC)
- WORK WITH SHIPYARD OR SYSTEMS PRIME CONTRACTORS TO INTEGRATE TRAINING INTO OPERATIONAL EQUIPMENT
- HELP FACILITATE THE VISION, STRATEGY AND INTEGRATED OPERATING PLAN FOR SURFACE WARFARE TRAINING



Surface Warfare Program

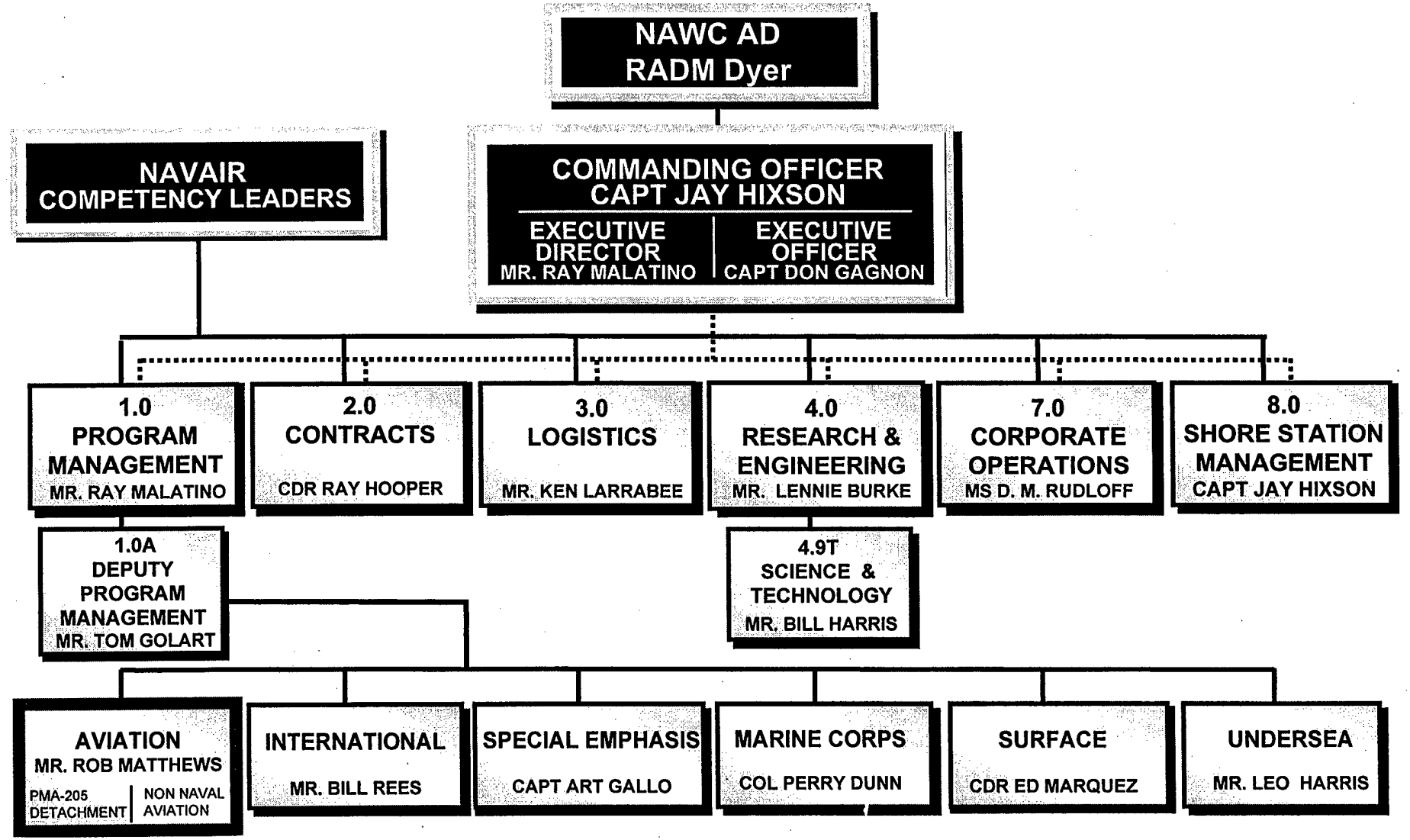
ADVANCE PLANNING BRIEFING TO INDUSTRY



APRIL 1999

Mr. Rob Matthews
Program Director, Aviation
MatthewsRM@navair.navy.mil

ORGANIZATION STRUCTURE



CB0009E

Overview

- ACQUISTION STRATEGY DRIVERS
- ACQUISITION REFORM INITIATIVES
- OVERVIEW OF NECK-DOWN STRATEGY
- FY2000 PRODUCTS & SERVICES CONTRACT
- MARINE CORPS SIMULATOR MASTER PLAN
- FIELDED TRAINING SYSTEMS SUPPORT CONTRACT
- SPECIFIC PROCUREMENTS
- REQUEST FOR ASSISTANCE
- SUMMARY

ACQUISITION STRATEGIES DRIVERS

- Budget pressure
- Increased multi-mission capability
- Simulators at capacity
- Technology breakthroughs
- Acquisition Reform

ACQUISITION REFORM INITIATIVES

- ALPHA CONTRACTING
  - CNATRA GPS Mod
  - CH-53D Visual Upgrade
  - USMC Simulator Master Plan
- MULTIPLE AWARD IQCs
  - FY2000 Products and Services Contract
  - Fielded Training Systems Support Contract
- ORAL PROPOSAL PRESENTATIONS
  - FY2000 Products and Services Contract (Lot 2)
- CAIV
  - EA-6B Iwakuni
  - USMC Simulator Master Plan
- CPARS
  - Database Reporting and Team Training have been implemented

OVERVIEW OF CONTRACTS "NECK-DOWN" STRATEGY

Products & Services

TSD
FISC
NAWCAD
NUWC
NSWC

2nd QTR 99 RFP — 1st QTR 00 Award — **IDIQ / Multi-Award / $400-$500M / 8 YRS**

USMC Sim Master Plan

2nd QTR 99 RFP — 2nd QTR 00 Award — **IDIQ / Multi-Award / $200M / 5 YRS**

F/A-18E/F
V-22
T-45
JPATS

Continue Current Strategy of Buy-Through-the-Prime

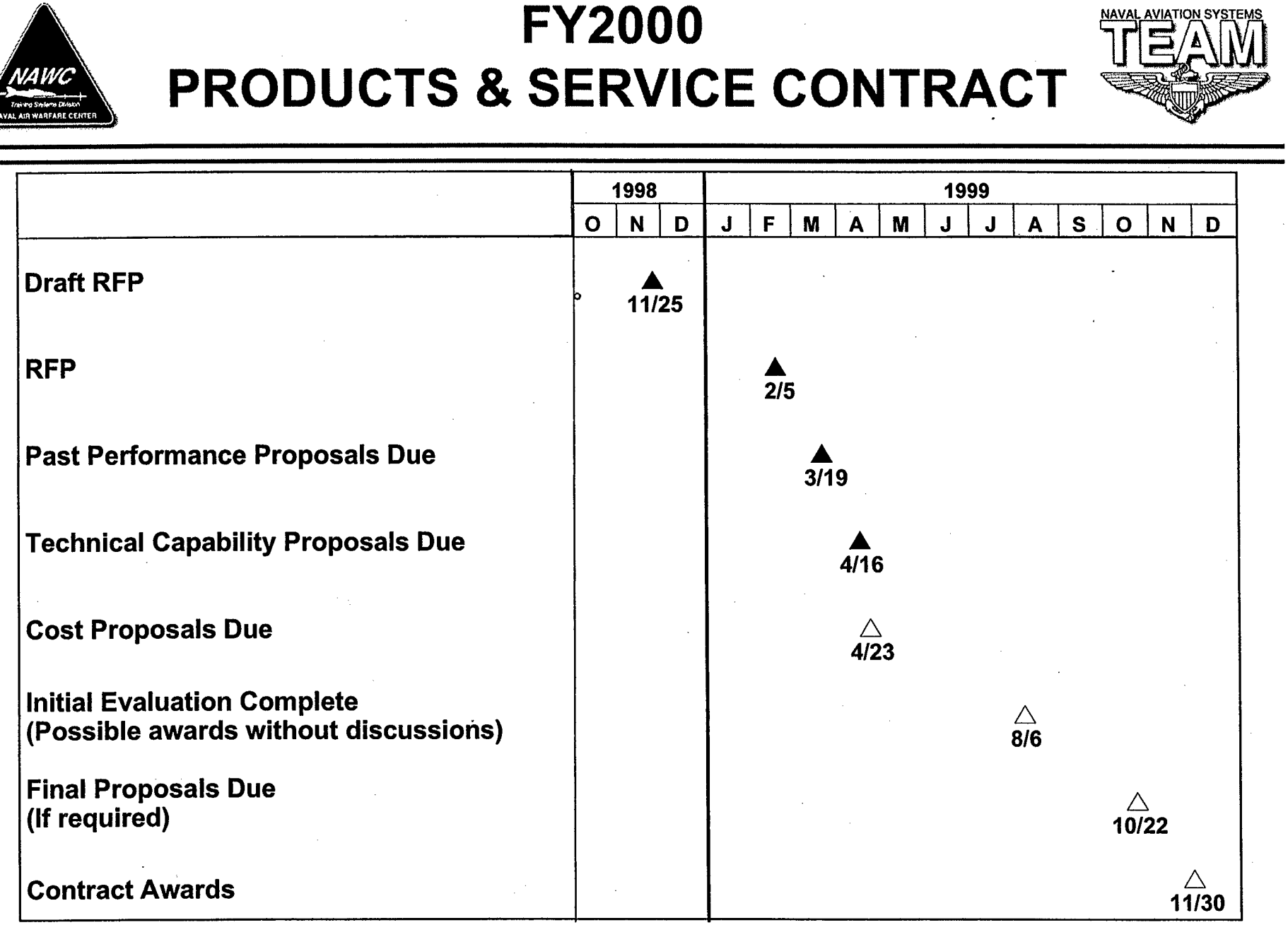
Fielded Training Systems Support

1999	2000	2001	2002	2003
3rd QTR 99 RFP	1st QTR 00 Award	IDIQ / Multi-Award / $400M / 5(5) YRS		

PMA-205/NAWCTSD TRAINING SYSTEMS CONTRACT (TSC) ACQUISITION OMNIBUS

- ACCOMMODATE FUTURE REQUIREMENTS FOR VARIOUS PLATFORMS
- MULTIPLE AWARDEES
- PARTIAL SMALL BUSINESS SET-ASIDE
- BEST VALUE / FFP AND COST PLUS TYPE ORDERS
- CONTRACT AWARD 30 NOVEMBER 1999
  - RFP Closes 23 April 1999
  - Lot II Oral Presentations starting 06 May 1999
- STREAMLINE EFFICIENT ACQUISITION APPROACH
  - Reduce acquisition lead time
  - More efficient use of resources
  - Increase responsiveness to customer needs

FY2000
PRODUCTS & SERVICE CONTRACT



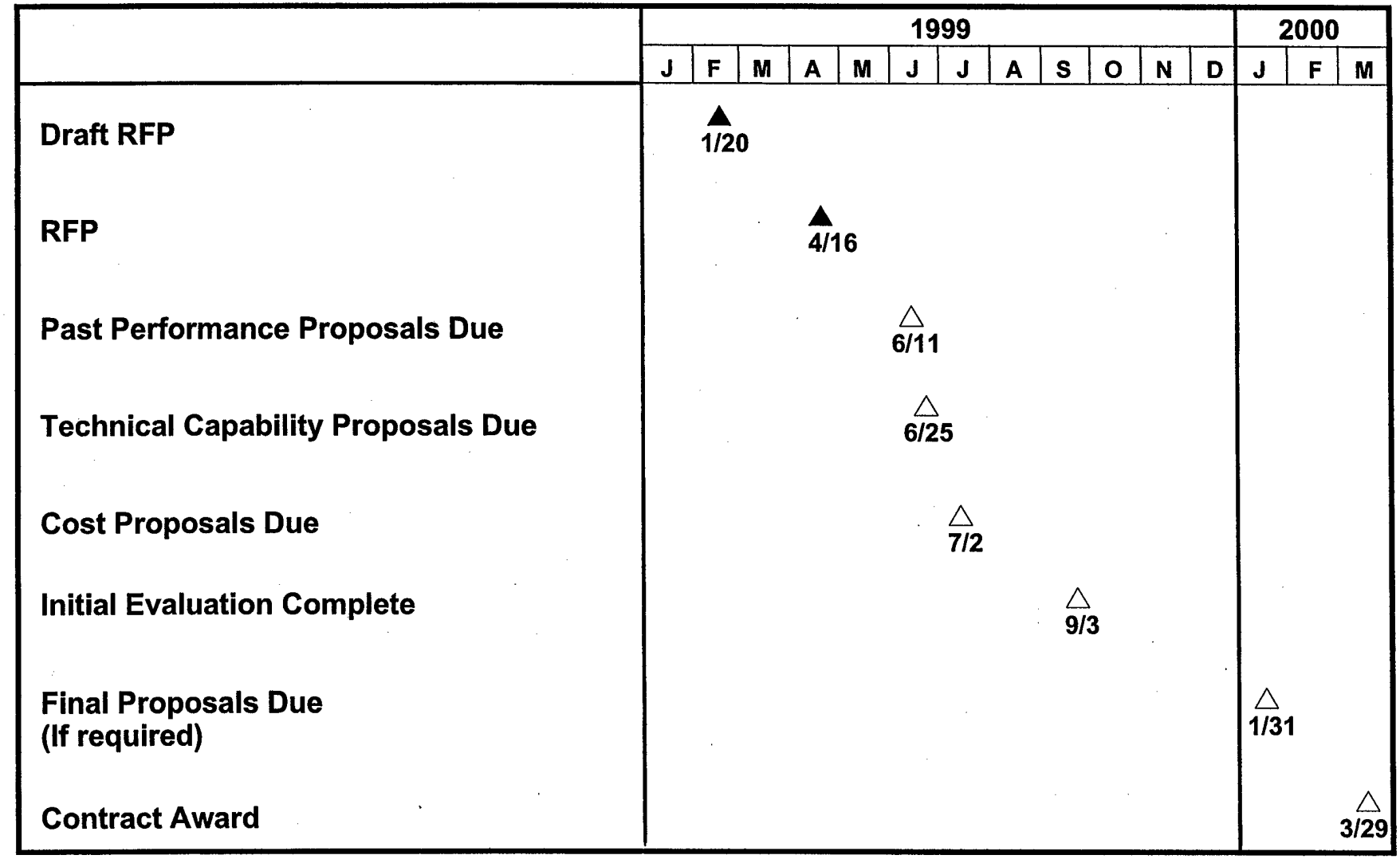
PLANNED ACQUISITIONS
MARINE CORPS SIMULATOR MASTER PLAN

- ACQUISITION OF 10 T/M/S AIRCREW PROCEDURES TRAINERS
  - 17 TOTAL NUMBER OF DEVICES IN THE FYDP
  - RFP RELEASE MID-APRIL 1999
  - CONTRACT AWARD MARCH 2000(Competitive IDIQ)
  - INDEFINITE DELIVERY/INDEFINITE QUANTITY CONTRACT
  - $300M CONTRACT CEILING VALUE

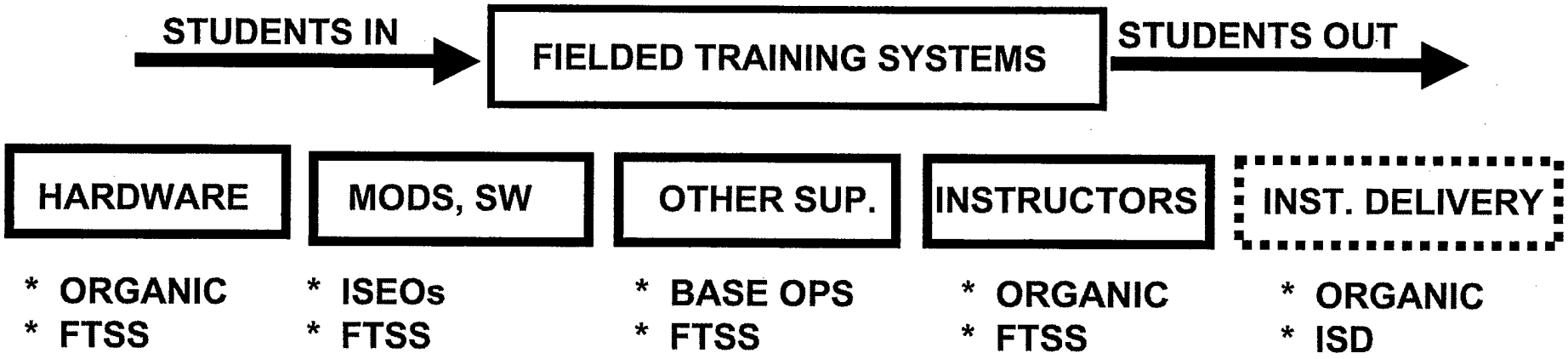
- VISION
  - Post-FRS Training
  - Mission Applicable Interoperability/HLA
  - Core/Common Systems Across All T/M/S

POC: Major Jim Rector, (407) 380-4334,
rectorje@navair.navy.mil

USMC SIMULATOR MASTER PLAN



Fielded Training Systems Support (FTSS)

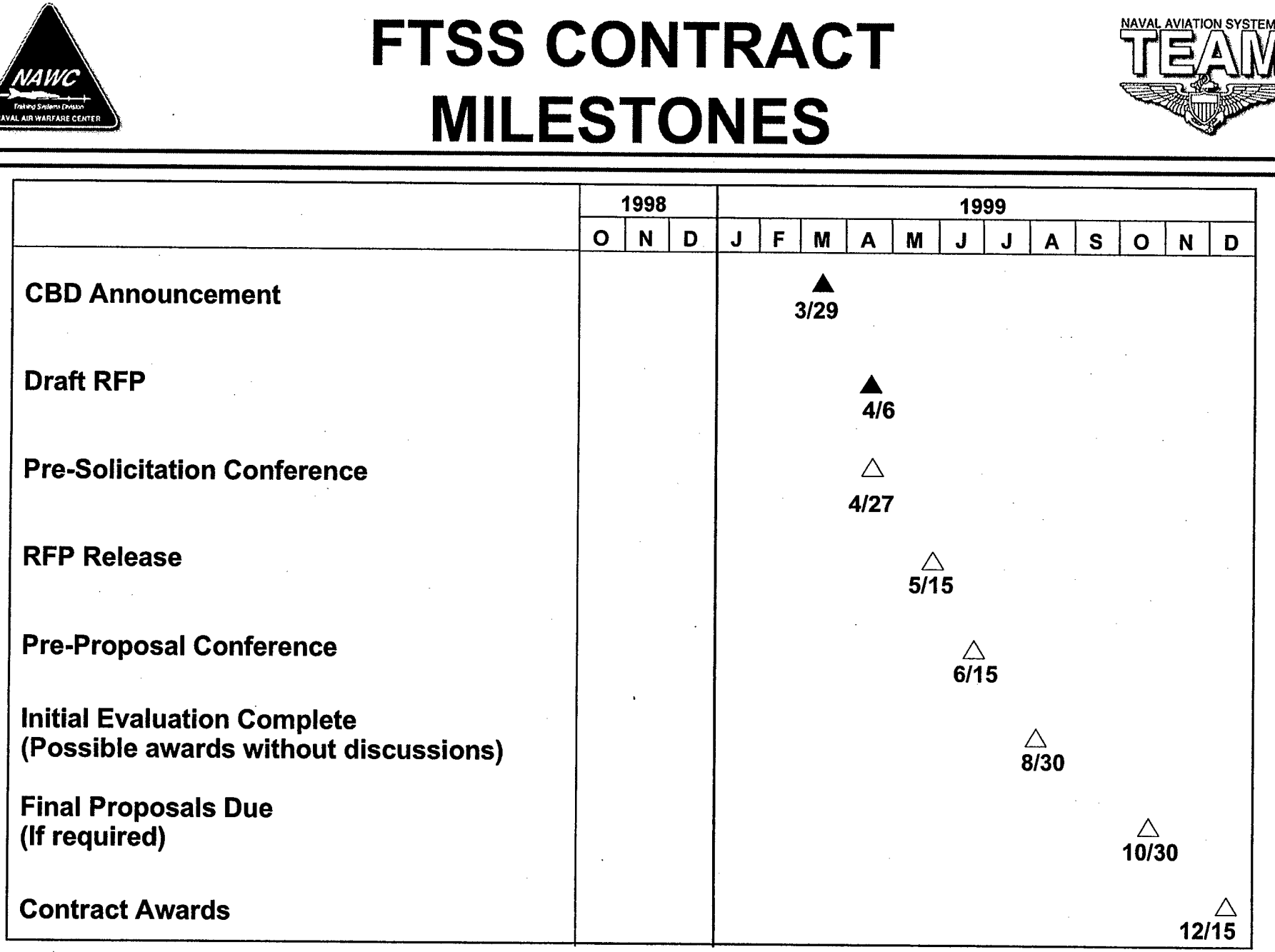


- **FTSS Can Provide All of the Above Areas of Support**
  - **Support Can Be Any Combination of Requirements:**
    - **Platform, Cross-Platform, Geographic, etc.**
    - **Operation, Maintenance , Instructors, Minor Mods**
    - **Real Property Maintenance, Range Maintenance, etc.**

Acquisition Reform Opportunity

- 10 Year, Multiple Award ID/IQ for FTSS
  - Ordering Period First 5 Years
  - Task Orders Not To Exceed 5 Years
- Ceiling $400M
- Full Range of "Best Value" Evaluation Options
  - Trade-off Analysis
- Full Range of Task Orders
  - Current Performance Based SOWs
  - Training System Requirements Document for TOs
    - **Contractors Develop SOW & CDRLs**

FTSS CONTRACT MILESTONES



PLANNED ACQUISITIONS
EA-6B

- COMPUTER-AIDED DEBRIEFING SYSTEM
  - CONTRACT AWARD TBD
  - 3 UNITS, TOTAL PROCUREMENT
  - <$5M TOTAL CONTRACT VALUE

- IOS UPGRADE FOR DEVICES 2F143 AND 15E22C AT NAS WHIDBEY ISLAND AND MCAS CHERRY POINT
  - CONTRACT AWARD FY 01
  - 2 UNITS, TOTAL PROCUREMENT
  - < $5M TOTAL CONTRACT VALUE

POC: MAJ Craig Nysven, (407) 380-4929
NysvenCJ@navair.navy.mil

PLANNED ACQUISITIONS
F-14

- 2F169 (WST) VISUAL SYSTEM REPLACEMENT
  - CONTRACT AWARD March 2001 1 UNIT, TOTAL PROCUREMENT
  - $5M - $10M TOTAL CONTRACT VALUE

- 2F154/2F169 LIGHTVALVE REPLACEMENT
  - CONTRACT AWARD March 2001
  - 1 LOT, TOTAL PROCUREMENT
  - < $5M TOTAL CONTRACT VALUE

POC: Mr. W. Sieffert, (407) 380-8152,
sieffertwc@navair.navy.mil

PLANNED ACQUISITIONS
E-2C

- HAWKEYE 2000 WST (HLA & DIS CAPABLE) MISSION COMPUTER UPGRADE (MCU)/ADVANCED CONTROL INDICATOR SET (ACIS)
  - CONTRACT AWARD June 1999 > $10M
  - TOTAL PROCUREMENT - 2 units
- PRE-PLANNED PRODUCT IMPROVEMENT (P^3I)
  - SIMCOM rehost, IOS enhancements, Pseudo Pilot Station, Training & CTKS
  - CONTRACT AWARD June 2000, $5 - $10M
- DEVICE 15F8H SATCOM/COOPERATIVE ENGAGEMENT CAPABILITY (CEC)
  - CONTRACT AWARD March 2000, $5 - $10M

POC: Mr. Warren Bizub, (407) 380-4698 (PJM)
BizubWW@navair..navy.mil
LT Rob Figge, (407)-380-4233 (APJM)
FiggeNR@navair.navy.mil

PLANNED ACQUISITIONS
C-2A

- **OFT-2 WEST COAST**
  - **CONTRACT AWARD March 2000, $5 - $10M**
  - **TOTAL PROCUREMENT - 1 unit**

POC: Mr. Warren Bizub, (407) 380-4698 (PJM)
BizubWW@navair..navy.mil

LT Rob Figge, (407)-380-4233 (APJM)
FiggeNR@navair.navy.mil

PLANNED ACQUISITIONS
AV-8B

- **VISUAL SYSTEM PROCUREMENT**
  - CONTRACT AWARD 1st Qtr 1999 (Exercise Sole Source Option)
  - 1 UNIT, TOTAL PROCUREMENT
  - $5 - $10M TOTAL CONTRACT VALUE

- **NETWORK CURRENT SIMULATORS FOR HLA COMPLIANCE**
  - CONTRACT AWARD FY 2000
  - 5 UNITS, TOTAL PROCUREMENT
  - $5 - $10M TOTAL CONTRACT VALUE

POC: Mr. B. Carlsson, (407) 380-4724,
carlssonbk@navair.navy.mil

PLANNED ACQUISITIONS
AV-8B

- 11H98 ARMAMENT SYSTEMS, 11H95 ELECTRICAL SYSTEMS, 11H94 AVIONICS SYSTEMS MAINTENANCE TRAINERS - OMNIBUS OFP UPGRADE
  - CONTRACT AWARD Jan 2002
  - 3 UNITS, TOTAL PROCUREMENT
  - $5 - $10M TOTAL CONTRACT VALUE

- 11H94 AVIONICS SYSTEMS MAINTENANCE TRAINER RADAR UPGRADE
  - CONTRACT AWARD Jan 2000
  - 1 UNIT, TOTAL PROCUREMENT
  - > $10M TOTAL CONTRACT VALUE

POC: MSgt Kent Campbell, (407) 380-4227,
campbellk@navair.navy.mil

PLANNED ACQUISITIONS
P-3

- **2F87F/2F142F DIGITAL FUEL QUANTITY INDICATOR (DFQI)**
  - CONTRACT AWARD CY 2000
  - 8 UNITS, TOTAL PROCUREMENT
  - $5 - $10M TOTAL CONTRACT VALUE

- **2F87F/2F142F/2F140T/2F87T ELECTRONIC FLIGHT DISPLAY SYSTEM (EFDS) - DIGITAL HSI & FDI**
  - CONTRACT AWARD CY 2000
  - 15 UNITS, TOTAL PROCUREMENT
  - $5 - $10M TOTAL CONTRACT VALUE

PLANNED ACQUISITIONS
P-3 (continued)

- 2F140 SLEP, COMPUTER REHOST/IOS UPGRADE
  - CONTRACT AWARD CY 2002
  - 5 UNITS, TOTAL PROCUREMENT
  - $5M - $10M TOTAL CONTRACT VALUE

- 2F87F/2F142F VISUAL SYSTEMS UPGRADE
  - CONTRACT AWARD CY 2002 8 UNITS, TOTAL PROCUREMENT
  - > $10M TOTAL CONTRACT VALUE

CDR David Arms, (407) 380-4241,
armsdh@navair.navy.mil

PLANNED ACQUISITIONS
S-3B

- **VISUAL SYSTEM UPGRADE DEVICE 2F92B**
  - CONTRACT AWARD November 1999 (D.O. on existing IQC)
  - 1 UNIT, TOTAL PROCUREMENT
  - < $5M TOTAL CONTRACT VALUE (IQC)

- **COMMUNICATIONS IMPROVEMENT PROGRAM MODIFICATION ON DEVICES 2F92B AND 14B49A**
  - CONTRACT AWARD CY99-2003 (D.O. on existing IQC)
  - 7 UNITS, TOTAL PROCUREMENT
  - < $5M TOTAL CONTRACT VALUE

PLANNED ACQUISITIONS
S-3B (continued)

- CARRIER INERTIAL NAVIGATION SYSTEM (CAINS II) & ELECTRONIC FLIGHT INSTRUMENTS (EFI) MODIFICATION ON DEVICES 2F92B AND 14B49A
  - CONTRACT AWARD December 1998-2002 (MIPR to Army IQC)
  - 7 UNITS, TOTAL PROCUREMENT
  - < $5M TOTAL CONTRACT VALUE

POC: Mr. Rocco Sciascia, (407) 380-4182,
Sciasciarm@navair.navy.mil

PLANNED ACQUISITIONS
GENERAL AVIATION

- AIR TRAFFIC CONTROL (ATC) NATIONAL AIRSPACE (NAS) MODERNIZATION UPGRADE. INTEGRATE ADVANCED DISPLAY SYSTEM IN DEVICE 15G30 CARRIER AND AMPHIBIOUS TRAINERS
  - CONTRACT AWARD Nov/Dec 1999 (SBA 8A Set Aside)
  - 2 TRAINERS (14 DISPLAY CONSOLES), TOTAL PROCUREMENT
  - < $5M TOTAL CONTRACT VALUE

- 15G32 VISUAL MODIFICATION, GRAPHIC GENERATOR REPLACEMENT
  - CONTRACT AWARD CY 2001
  - 1 TRAINER, TOTAL PROCUREMENT
  - < $5M TOTAL CONTRACT VALUE

PLANNED ACQUISITIONS
GENERAL AVIATION (continued)

- ATC UPGRADE TO VOICE INDEPENDENT RECOGNITION SYSTEM IN DEVICES 15G30/31/32
  - CONTRACT AWARD CY 2003
  - 6 UNITS, TOTAL PROCUREMENT
  - < $5M TOTAL CONTRACT VALUE

- 15G32 TOWER OPERATIONS TRAINING SYSTEMS INSTRUCTOR OPERATING SYSTEM REHOST/SPEAKER INDEPENDENT SYSTEM UPGRADE
  - CONTRACT AWARD CY 2000
  - 1 UNIT, TOTAL PROCUREMENT
  - < $5M TOTAL CONTRACT VALUE

PLANNED ACQUISITIONS
GENERAL AVIATION (continued)

- 15G32 TOWER OPERATIONS TRAINING SYSTEMS VISUAL UPGRADE/SYSTEM REHOST
  - CONTRACT AWARD CY 2002
  - 1 UNIT, TOTAL PROCUREMENT
  - < $5M TOTAL CONTRACT VALUE

- 2H111 VIRTUAL IMAGING SYSTEM FOR APPROACH AND LANDING
  - CONTRACT AWARD CY 2002
  - 1 UNIT, TOTAL PROCUREMENT
  - < $5M TOTAL CONTRACT VALUE

PLANNED ACQUISITIONS
GENERAL AVIATION (continued)

- 3B64 AVIATION ORDNANCE (AO) "A" SCHOOL TRAINER BLOCK UPGRADE
  - CONTRACT AWARD CY 2001
  - 8 UNITS, TOTAL PROCUREMENT
  - < $5M TOTAL CONTRACT VALUE

- "A" SCHOOL DEVICE 11B110 AVIONICS ELECTRICAL SYSTEMS ADVANCED TRAINER REHOST/UPGRADE
  - CONTRACT AWARD CY 2001
  - 56 UNITS, TOTAL PROCUREMENT
  - < $5M TOTAL CONTRACT VALUE

PLANNED ACQUISITIONS
GENERAL AVIATION (continued)

- "A" SCHOOL DEVICE 11H116 GENERIC AIRBORNE RADAR SYSTEM TRAINER REHOST/UPGRADE
  - CONTRACT AWARD CY 2003
  - 143 UNITS, TOTAL PROCUREMENT
  - < $5M TOTAL CONTRACT VALUE

- AE "A" SCHOOL INTEGRATED ELECTRICAL SYSTEMS TRAINER (A-4 A/C replacement)
  - CONTRACT AWARD CY 2001/02/03/04 (Competitive SBA Set aside)
  - 12 UNITS, TOTAL PROCUREMENT
  - $5M - $10M TOTAL CONTRACT VALUE

POC: Mr. Ron D. Cole, (407) 380-4176,
colerd@navair.navy.mil

PLANNED ACQUISITIONS
C-130

- **VISUAL SYSTEM UPGRADE DEVICE 2F107**
  - CONTRACT AWARD March 1999
  - 1 UNIT, TOTAL PROCUREMENT
  - < $5M TOTAL CONTRACT VALUE

- **BRAC MOVE DEVICE 2F107 FROM MCAS EL TORO TO MCAS MIRAMAR**
  - CONTRACT AWARD December 1998 (COMS)
  - 1 UNIT, TOTAL PROCUREMENT
  - < $5M TOTAL CONTRACT VALUE

PLANNED ACQUISITIONS
C-130 (continued)

- **APT FOR IWAKUNI JAPAN**
  - CONTRACT AWARD FY 2000 (Competitive)
  - 1 UNIT, TOTAL PROCUREMENT
  - $5M - $10M TOTAL CONTRACT VALUE

POC: Mr. B. Carlsson, (407) 380-4724,
carlssonbk@navair.navy.mil

PLANNED ACQUISITIONS
IDS/COMS/CSI/CACT

PROGRAM	ESTIMATED VALUE (5 YR)	CONTRACT AWARD (FY)
•C-26 CACT	< $5M	2000
•TACAIR/HELO ISD	$20-35M	2000
•FTSS IQC (Multi)	$400Mceiling	2000
– F-14 COMS	$5-10M	2000
– E-2C COMS	$5-10M	2000
– AST COMS	<$5M	2000
– DINFOS	$5-10M	2000
– CSI	$20-35M	2000

POC: Rob Berry, (407) 380-4207,
BerryRC@navair.navy.mil

PLANNED ACQUISITIONS
IDS/COMS/CSI/CACT

PROGRAM	ESTIMATED VALUE (5 YR)	CONTRACT AWARD (FY)
•FTSS IQC (Multi)	$400Mceiling	2001
– KC-130 COMS	<$5M	2001
– CH46/53 COMS	$5-10M	2001
– SH-60B COMS	$5-10M	2001
– E-6A COMS	<$5M	2001
– CSI	$20-35M	2001
– MV-22	<$5M	2001

POC: Rob Berry, (407) 380-4207,
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PLANNED ACQUISITIONS
IDS/COMS/CSI/CACT

PROGRAM	ESTIMATED VALUE (5 YR)	CONTRACT AWARD (FY)
•FTSS IQC (Multi)	$400Mceiling	2002
– CNATRA COMS	$5-10M	2002
– S-3 COMS	$5-10M	2002
– P-3 HI COMS	< $5M	2002
– AV-8B COMS	$5-10M	2002
– NAVRES COMS	$5-10M	2002
– F/A-18 COMS	$20-35M	2002
– USMC MP COMS	$5-10M	2002

POC: Rob Berry, (407) 380-4207,
BerryRC@navair.navy.mil

PRESENTATION THEME

"HELPING EACH OTHER THROUGH EXCHANGE OF INFORMATION"

- Information we can provide today
- Areas where we need Industry help

AREAS WHERE INDUSTRY CAN HELP US

- FORMALIZE THE REQUIREMENTS TRACEABILITY PROCESS
  - NTSP → ISD → MC → RFP → Proposal → Rqmts Traceability Matrix
  - Use the formal process to **establish/manage fleet expectations**
- INCLUDE PROVISIONS FOR GOV'T INSIGHT INTO CRITICAL SUBCONTRACTS
- ESTABLISH CLEAR AND QUANTIFIABLE ENTRANCE & EXIT CRITERIA FOR MAJOR PROGRAM MILESTONES
- DEFINE MINIMUM REQUIRED DOCUMENTATION
- MINIMIZE GFE/GFI SCHEDULE IMPACT
  - When is Aircraft Operational Equipment (AOE) really needed?
  - Who (Gov't or Industry) should be responsible for procuring AOE?
  - When is it better to simulate rather than stimulate?

AREAS WHERE INDUSTRY CAN HELP US

- ESTABLISH REALISTIC SCHEDULES THROUGH EARNED VALUE MANAGEMENT SYSTEM IMPLEMENTATION
- RISK MANAGEMENT PLANS SHOULD BE FORMULATED AND EXECUTED AT THE PRODUCT TEAM LEVEL AND MANAGED AT THE IPT LEADERSHIP LEVEL
- IPT IMPLEMENTATION
  - Establish Mutual Ownership

AREAS WHERE INDUSTRY CAN HELP US

- CBT INTEROPERABILITY
  - Common Authoring Languages
  - Common Definitions
  - Standard Naming Conventions
  - Standardized Object Libraries
  - Standards Development/Update (e.g., IEEE 1278)

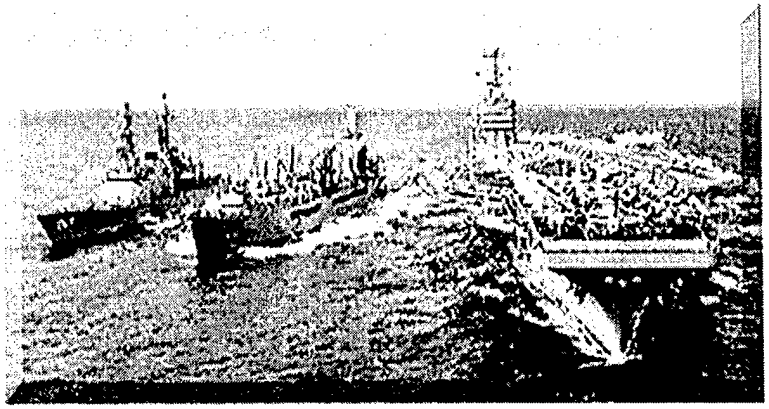
- HLA COMPLIANCE
  - Visual System Database and Image Generator Compatibility
  - Threat Generation Compatibility
  - Simulation & Federation Object Model definition
  - Interface Standardization
  - Infrastructure Requirements

- TECHNOLOGY REFRESH
  - Y2K

CONCLUSION/SUMMARY

- FLEET SIMULATION INTEREST SHIFTING TO POST-FRS TRAINING
  - TRAINING CONTINUUM
  - INCREASED MULTI-MISSION REQUIREMENTS
  - DEPLOYABLE
- INTEREST IN REDUCED ACQUISTION CYCLE FROM RESOURCES PERSPECTIVE
  - INNOVATIVE PROCUREMENTS
  - LESS INFRASTRUCTURE
- REDUCED LIFE CYCLE SUPPORT COSTS
  - COST EFFECTIVE ACQUISITIONS
  - AFFORDABLE READINESS





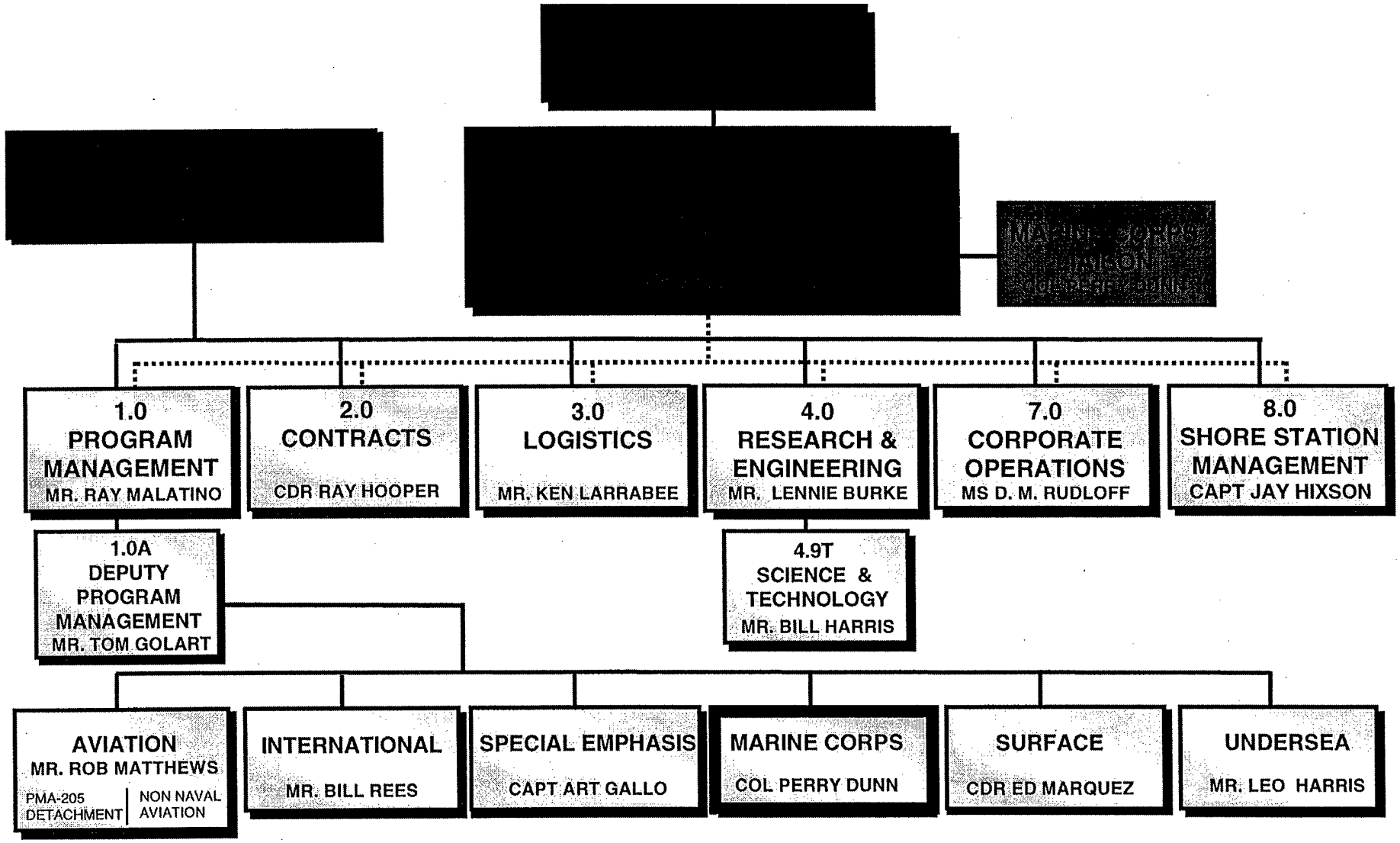
ADVANCE PLANNING BRIEFING TO INDUSTRY



APRIL 1999

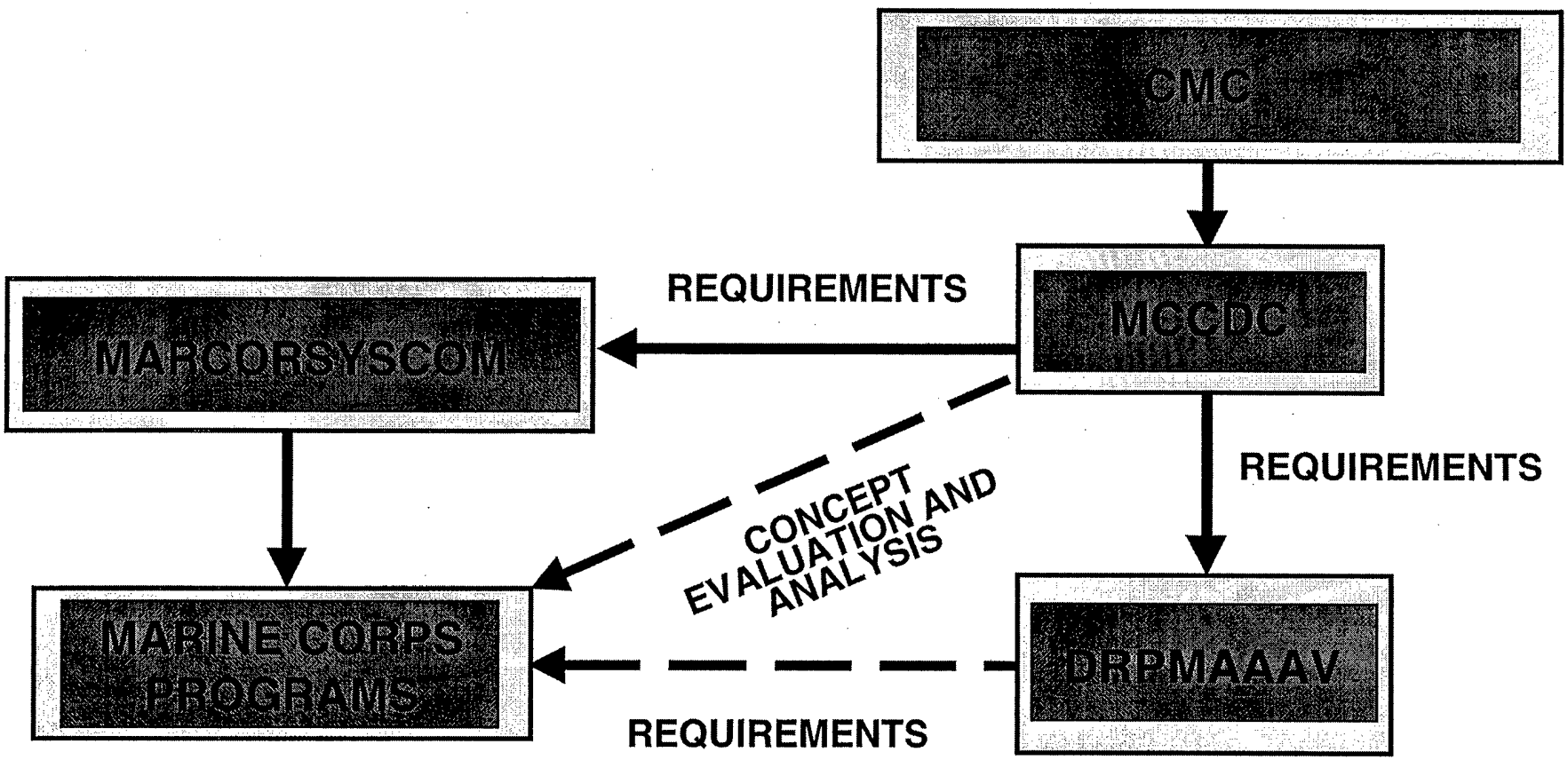
COL Perry Dunn
Program Director, Marine Corps
DunnPR@navair.navy.mil

ORGANIZATION STRUCTURE



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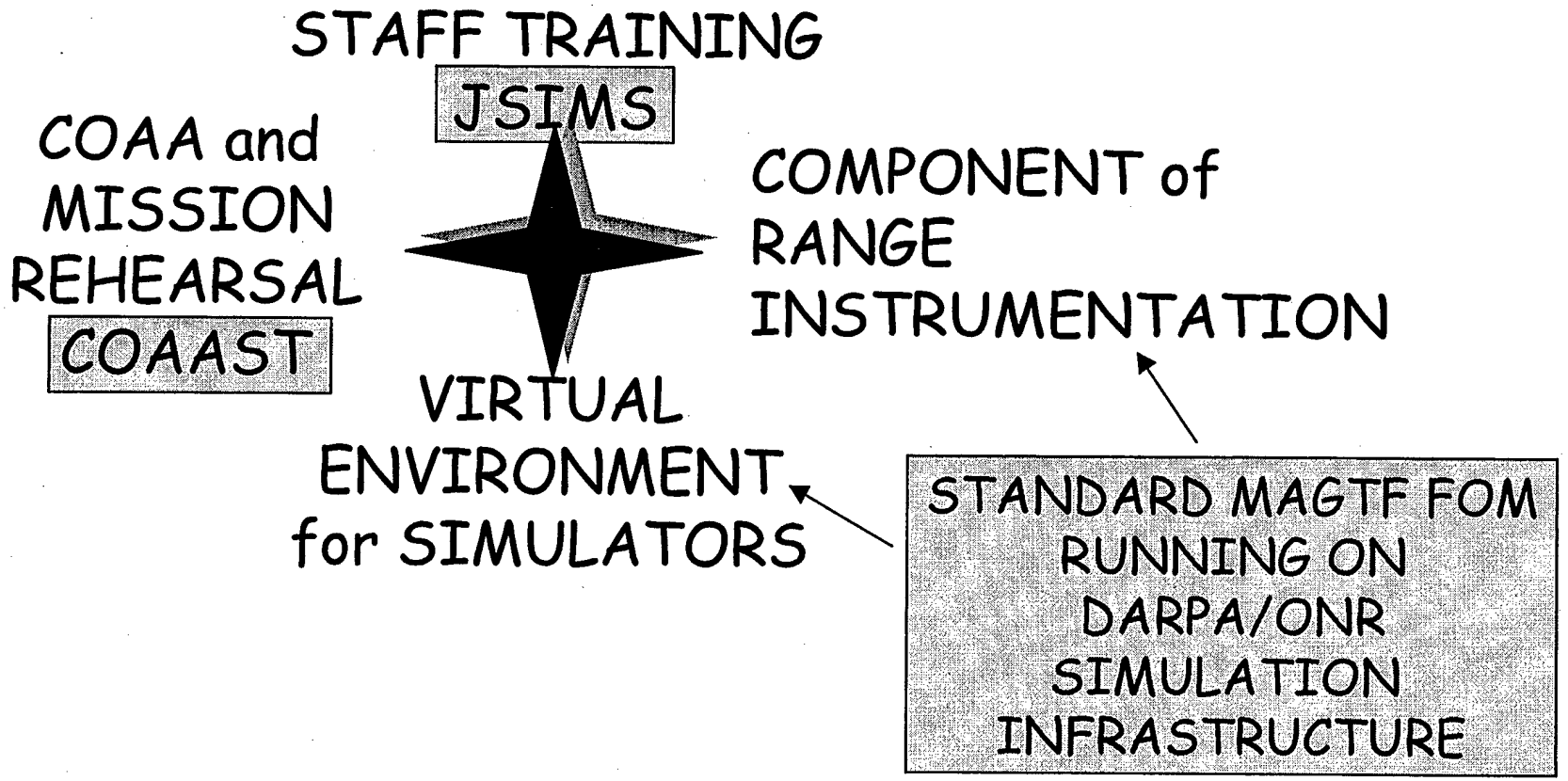
MARINE CORPS PROGRAM OFFICE CHAIN OF COMMAND



MARINE CORPS PROGRAMS ACQUISITION PLANNING

- MODELING AND SIMULATION (M&S)
- AMPHIBIOUS ASSAULT VEHICLE (AAAV)
- COMBAT VEHICLE APPENDED TRAINER (CVAT)
- ENHANCED INDOOR SIMULATED MARKSMANSHIP TRAINER (ISMT-E)
- CLOSED LOOP ARTILLERY SIMULATION SYSTEM (CLASS)
- DISTANCE LEARNING
- RANGE INSTRUMENTATION SYSTEM (RIS)
- JOINT SIMULATION SYSTEM (JSIMS)
- POST FIELDING LIFE CYCLE SUPPORT

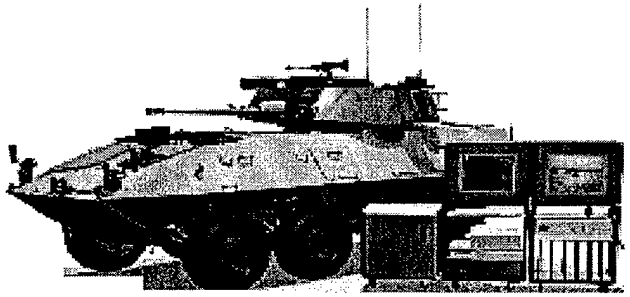
FINDING SOLUTIONS



MODELING AND SIMULATION (M&S)

- Active Participant in JSIMS while maintaining and improving legacy systems (MTWS) to ensure effective simulated exercise support to operational commanders.
- M&S Implementation Plan supporting the Marine Corps Master Plan
- Development of capability to link future and upgraded simulations and simulators for combined arms simulated training (MAGTF FOM)
- Provide capability to conduct instrumented live exercises (RIS)
- Develop course of action assessment and mission rehearsal capability (COASST)
- Exploit opportunities to employ M&S to enhance decision making skills (MEU 2000, Combat Decision Range)
- Exploit new sciences and technologies relating to the study of warfare or to the development of systems used by Marines. (Project Albert)

COMBAT VEHICLE APPENDED TRAINER (CVAT)



DESCRIPTION

THE CVAT SYSTEM PROVIDES FULL CREW SIMULATION IN THE ACTUAL WEAPONS PLATFORM (AAV'S, LAV'S, AND M1A1) TO TRAIN INDIVIDUALS OR FULL CREWS IN THEIR COMBAT VEHICLES. CVAT PROVIDES HIGH FIDELITY, DEPLOYABLE, APPENDED PRECISION GUNNERY, MANEUVER, AND NETWORKED (HLA COMPLIANT) TACTICAL TRAINING THAT WILL ALLOW ARMORED COMBAT CREWS TO SATISFY STANDARDIZED, INDIVIDUAL, COLLECTIVE AND JOINT TRAINING. CURRENT FUNDING SUPPORTS 32 SYSTEMS FOR THE M1A1 TANK AND 32 SYSTEMS FOR THE LAV-25.

SCHEDULE

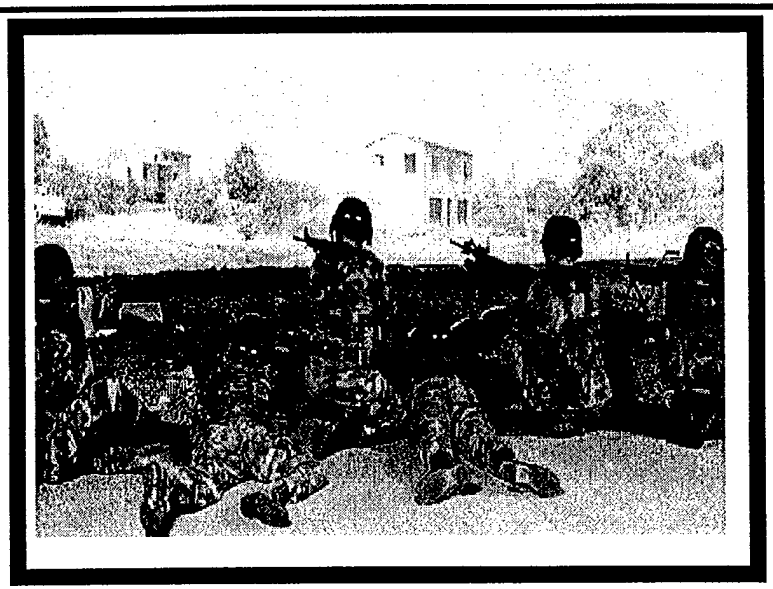
MS 0	3Q FY97
MS I/II	4Q FY99
MS III	2Q FY01
IOC	3Q FY02
FOC	4Q FY04

FUNDING

($MILLION)

	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05
RDTE			3.5					
PMC				24.0	12.2	4.9	.8	
O&M					0.5	0.6	.6	.6
TOTAL	0	0	3.5	24.0	12.7	5.5	1.4	.6

INDOOR SIMULATED MARKSMANSHIP TRAINER SYSTEM (ISMT-E)



DESCRIPTION

PROVIDES BASIC AND SUSTAINED MARKSMANSHIP TRAINING CONSISTING OF QUALIFICATION RANGE, SHOOT/NO-SHOOT AND COMBAT SCENARIOS. ISMT CONSISTS OF FIRING POSITIONS, INSTRUCTOR STATION, AND VISUAL DISPLAY. FY00 FUNDING WILL BE USED TO UPGRADE EXISTING ISMT (DIGITAL GRAPHICS, ADDITIONAL WEAPONS AND SCENARIOS),RIVERINE ASSAULT CRAFT SIMULATOR, UPGRADES TO 7 OLDER SYSTEMS INCLUDING CAMP DAVID. 13% OF ISMT HLA COMPLIANT IN FY00.

SCHEDULE *

MS III	1Q FY00
CONTRACT AWARD	2Q FY00
IOC	2Q FY01
FOC	4Q FY02

* APPLIES TO POM 2000 ENHANCEMENTS

FUNDING

($MILLION)

	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05
PMC			8.9					
O&M					.1			
TOTAL	0	0	8.9	0	.1	0	0	0

CLOSED LOOP ARTILLERY SIMULATION SYSTEM (CLASS)



DESCRIPTION

CLASS WILL PROVIDE DEPLOYABLE INTERACTIVE MISSION TRAINING FOR THE FORWARD OBSERVOR (FO), FIRE DIRECTION CENTER (FDC), AND THE FIRING BATTERY CREW, THAT INCLUDES A FULL PERFORMANCE FEEDBACK AND ANALYSIS CAPABILITY (LIVE & SIMULATED). CLASS WILL BE HLA COMPLIANT & INTEROPERATIVE W/ C4I SYSTEMS.

SCHEDULE

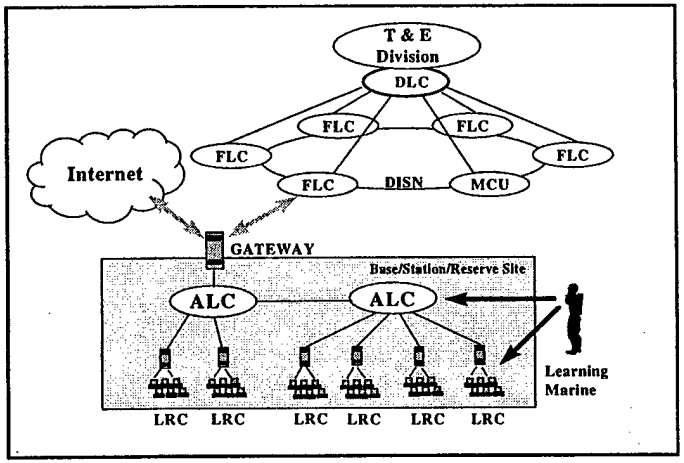
MS 0	4Q FY97
MS I/II	4Q FY01
MS III	4Q FY02
IOC	2Q FY04
FOC	4Q FY05

FUNDING

($MILLION)

	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05
RDTE					1.0			
PMC						5.8	7.3	8.5
O&M						0.1	0.1	0.6
TOTAL	0	0	0	0	1.0	5.9	7.4	9.1

DISTANCE LEARNING



DESCRIPTION

TO PROVIDE WORLD-CLASS TRAINING AND EDUCATION WHEN AND WHERE NEEDED VIA A DISTRIBUTED NETWORK TO ALL MARINES IN ORDER TO ENHANCE OPERATIONAL READINESS. MARINES CAN ACCESS INTERACTIVE MULTIMEDIA INSTRUCTION, VIDEO TELETRAINING, VIDEO TELECONFERENCING, AND EXTERNAL TRAINING RESOURCES.

SCHEDULE

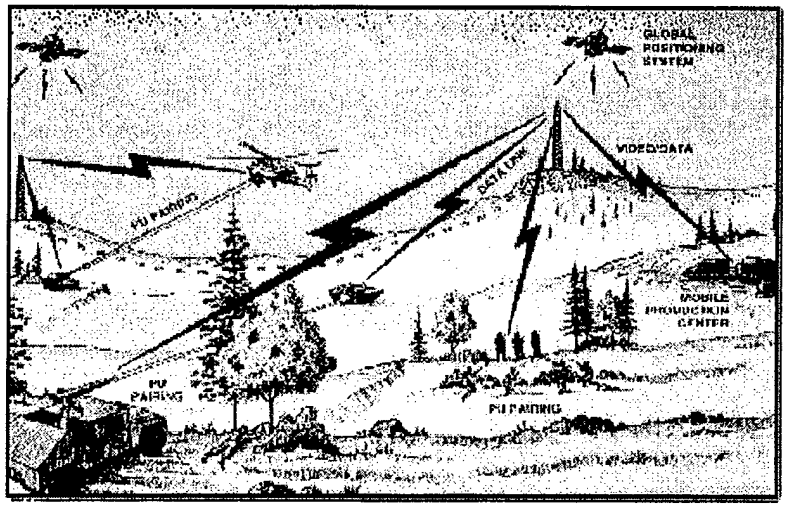
MS I/II	1QFY99
MS III	4Q FY99
IOC	2Q FY01
FOC	4Q FY05

FUNDING

($MILLION)

	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05
PMC		1.3	3.9	10.8	9.5	8.0	7.8	8.8
O&M	1.9	10.3	7.0	9.3	10.7	11.9	11.1	11.1
TOTAL	1.9	11.6	10.9	20.1	20.2	19.9	18.9	19.9

RANGE INSTRUMENTATION SYSTEM (RIS)



DESCRIPTION

AN INTEGRATED DATA COLLECTION AND ANALYSIS SYSTEM THAT PROVIDES REALISTIC TRAINING FEEDBACK FOR FORCE-ON-FORCE (FOF) AND LIVE-FIRE TRAINING ENVIRONMENTS. RIS WILL BE HLA COMPLIANT. CONSISTS OF COMPONENTS CARRIED ON VEHICLES, AIRCRAFT, AND WEAPONS SYSTEMS; COMMUNICATIONS NETWORK; DATA ANALYSIS SUBSYSTEMS; AND AFTER ACTION REVIEW CAPABILITY. CURRENT FUNDING PROVIDES INSTALLATION OF INITIAL RIS SYSTEM AT CAMP LEJUENE, NC. IT WILL SUPPORT FOF TRAINING ONLY.

SCHEDULE

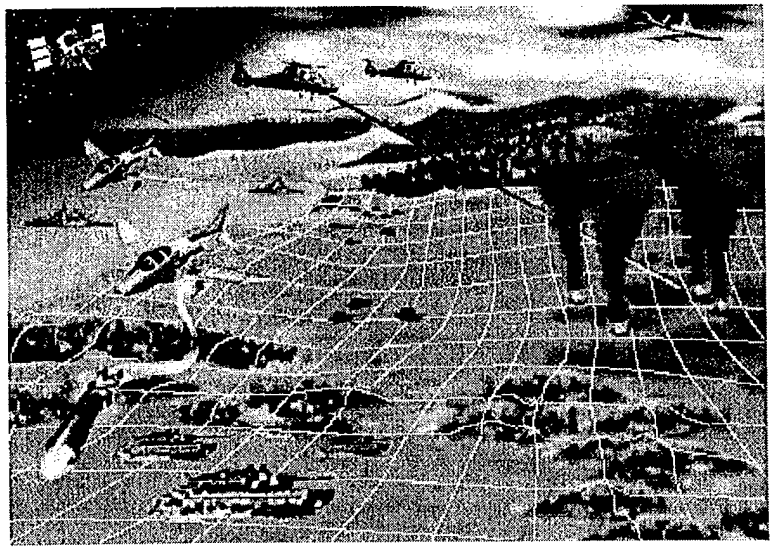
MS 0	4Q FY99
MS I/II	4Q FY01
MS III	4Q FY03
IOC	4Q FY04
FOC	TBD

FUNDING

($MILLION)

	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05
RDTE	.3				3.1	6.8	4.7	
PMC							8.1	8.4
O&M							.5	1.1
MILCON						1.3		
TOTAL	.3	0	0	0	3.2	8.2	44.4	10.1

JOINT SIMULATION SYSTEM (JSIMS)



DESCRIPTION

JSIMS WILL PROVIDE READILY AVAILABLE, OPERATIONALLY VALID COMPUTER-SIMULATED ENVIRONMENTS TO ENHANCE JOINT/SERVICE BATTLE STAFF TRAINING IN ALL PHASES OF MILITARY OPERATIONS AS WELL AS OTHER TASKS IDENTIFIED BY THE UNIVERSAL JOINT TASK LIST.

SCHEDULE

MS I/II	4Q FY98
MS III	2Q FY01
IOC (SOFTWARE VER 1.0)	3Q FY01
FOC (SOFTWARE VER 2.0)	1Q FY04

FUNDING

($MILLION)

	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05
RDTE	6.9	9.1	5.5	5.0	5.0	5.7	.5	.5
PMC				0.6	0.7	0.6	0.6	0
O&M			.3	.6	1.1	1.1	3.5	3.6
CCR*				.9	.9	.9	.9	0
TOTAL	6.9	9.6	5.8	7.1	7.7	8.3	4.6	4.1

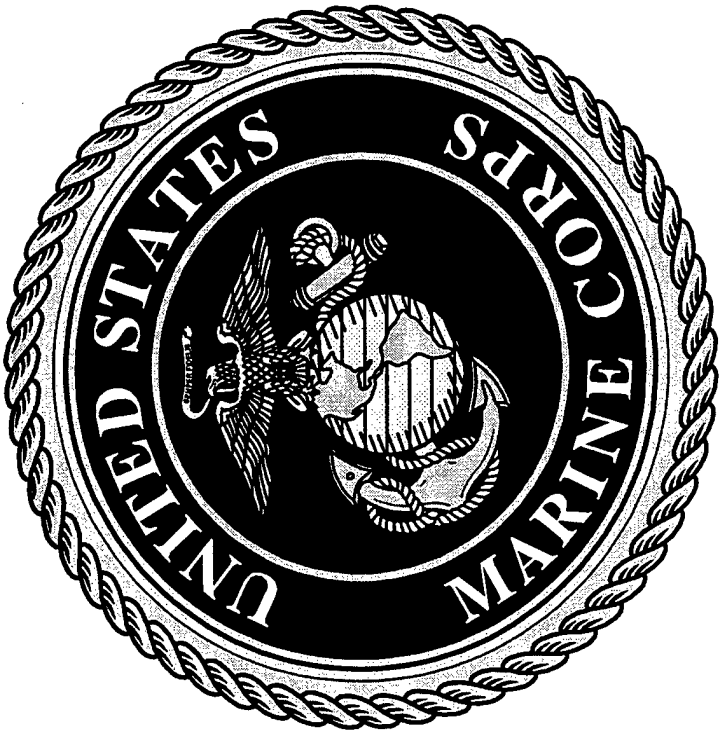
* C4I Common Computer Resources has this budget line

LIFE CYCLE SUPPORT

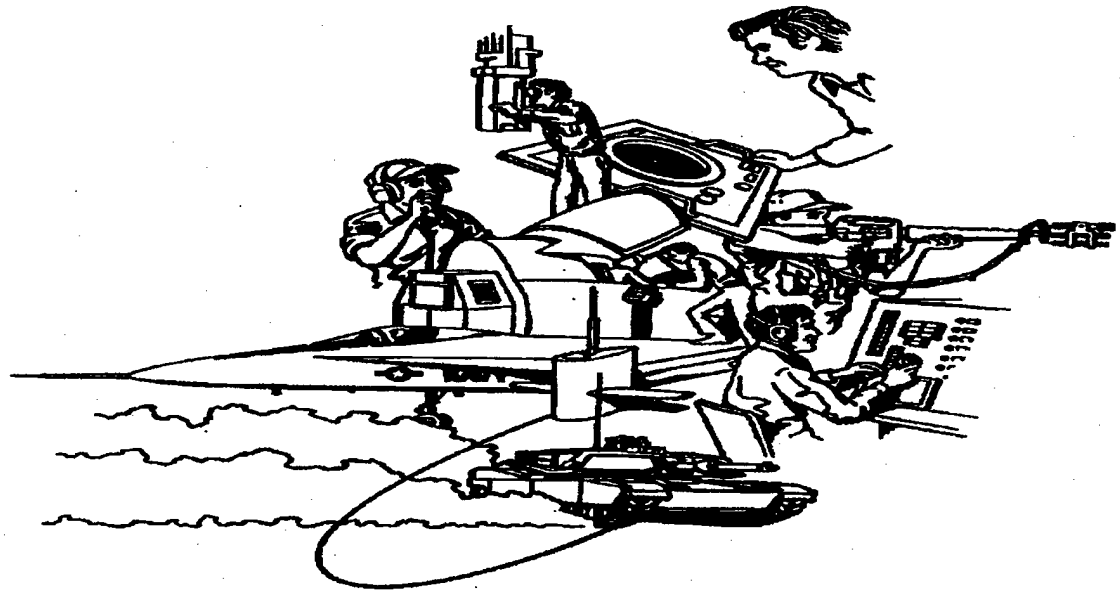
- **COM** - To provide on-site contractor operated maintenance and in some instances operation support for Ranges, Targets, Staff Trainers, Simulators, Table Top Trainer, and Minor Devices
  - CAX, RTS, PITS
  - CAST
  - PGTS, TSFO, LAV-TT, IMTS , and RFT
  - MTD, UMT, WISS, & 11H90 Maint Trnr

- **CLS** - Off-site on-call contractor maintenance.
  - MILES -- ISMT
  - PGS/TWGS -- Avenger ICOFT

- **SOMS** - Method for TAVSCs to locally maintain those training devices which do not fall under the COM or CLS.
  - Mobile Firearms Trainer (MFT)
  - Noise Simulators
  - Language Lab
  - CPR trainers

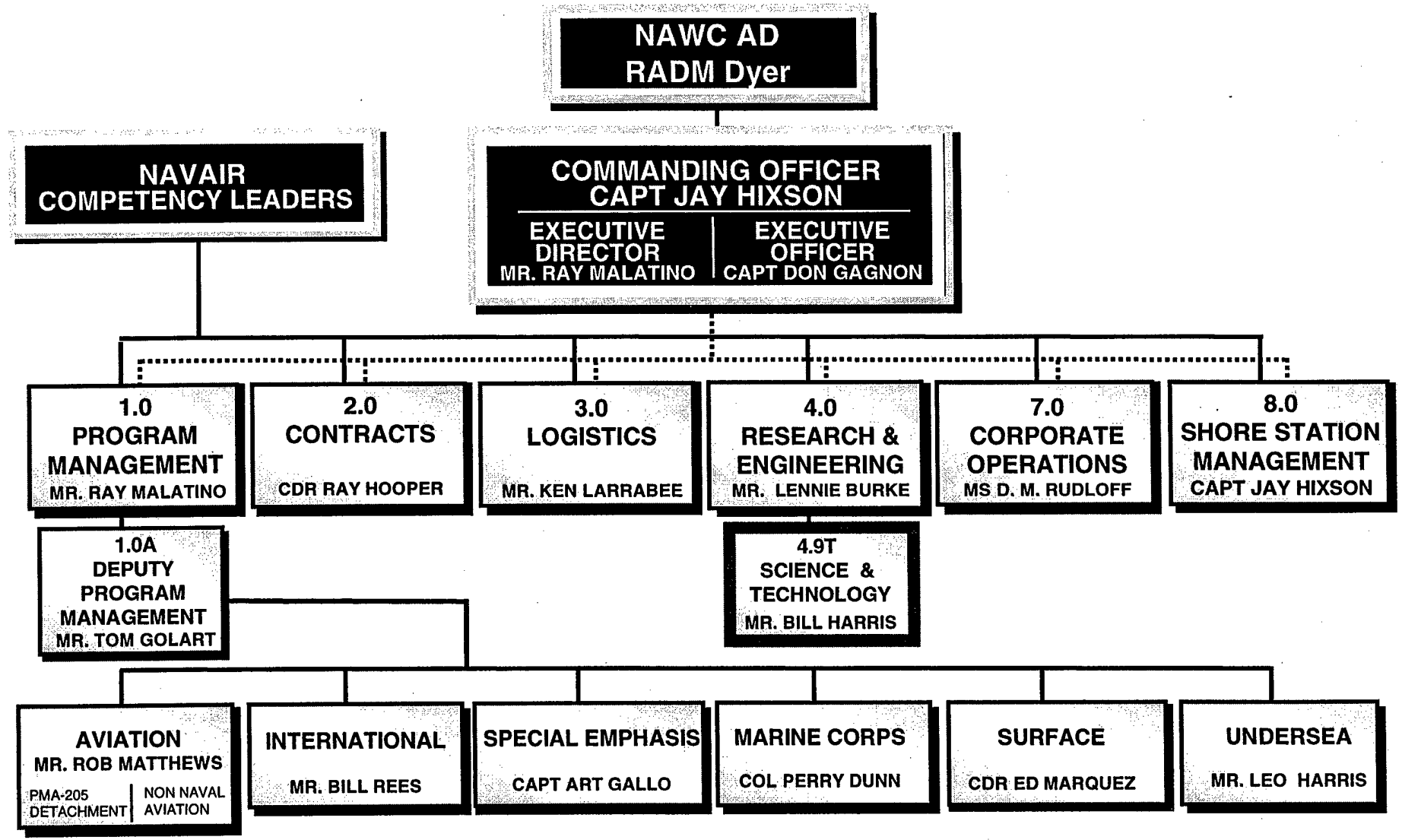

UNITED STATES MARINE CORPS

ADVANCE PLANNING
BRIEFING TO INDUSTRY



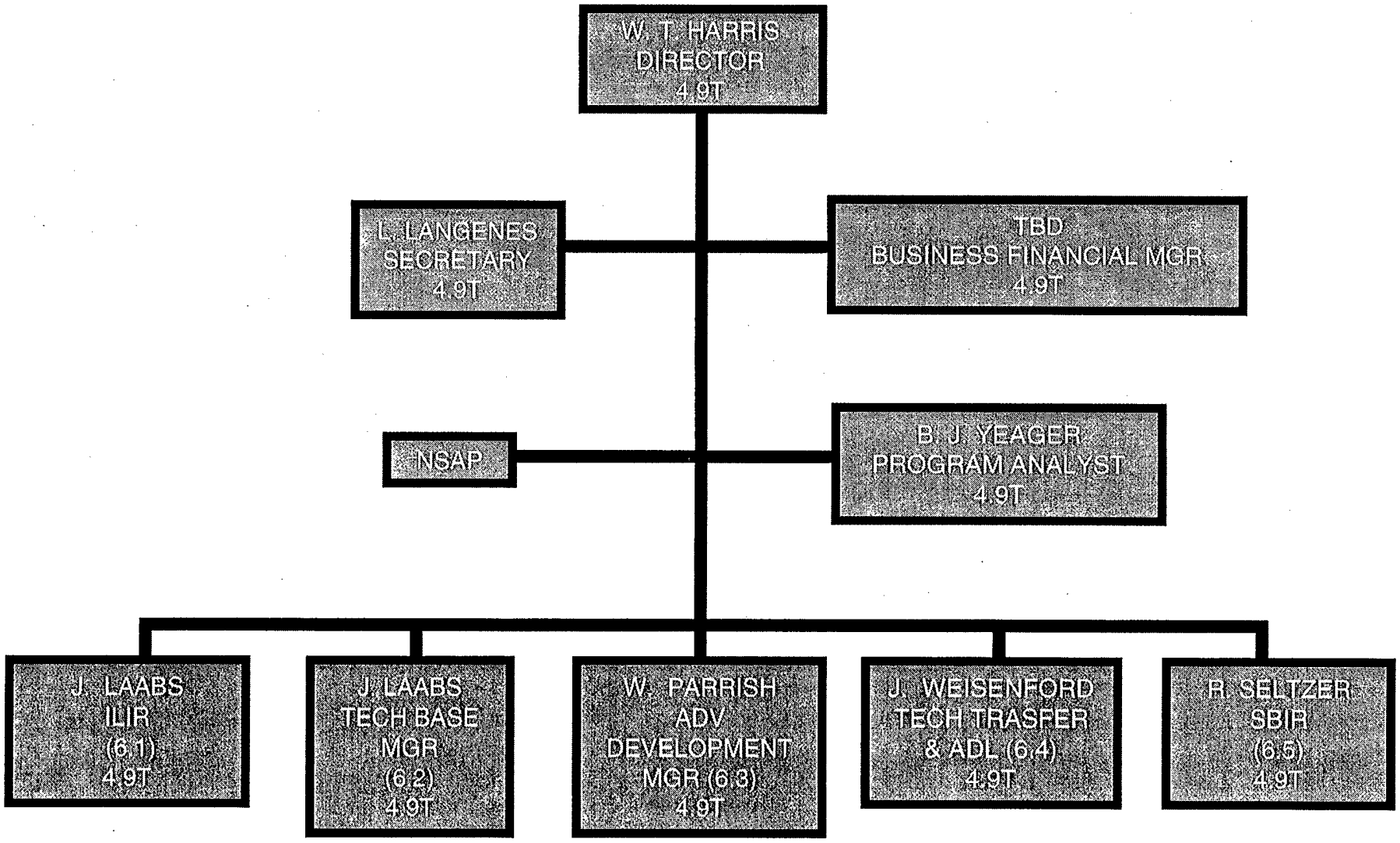
BILL HARRIS
PROGRAM DIRECTOR, RESEARCH & TECHNOLOGY
(407) 380-8376
HarrisWT@navair.navy.mil

ORGANIZATION STRUCTURE



CB0009E

ORGANIZATION





MISSION



To plan and perform a full range of directed research and development in support of Naval training systems for all warfare areas and platforms, to maintain an expanding technology base, and to transition results to the fleet.

R&D PHILOSOPHY

- Use technology to reduce cost, increase performance, and to reduce risk
- Maintain focus on Navy training systems
- Merge behavioral/cognitive science and engineering to produce effective systems
  - Behavioral Science is theory based with model testing
  - Hardware R&D is used to fill gaps in tech base and evaluate COTS equipment

ULTIMATE GOAL: TRANSFER OF R&D RESULTS TO USEFUL PRODUCTS WHICH MEET A NEED





TECHNOLOGY TRENDS



Technology Trends



TRAINING TRENDS

- **Advanced Distributed Learning**
- **Deployable Training Technology**
- **Instructor-less Training**
  Stand-alone and Networked
- **Internet Training**
- **Jointness, multi-National**
- **Adaptive Multi-media Training**
- **Urban Warfare Emphasis** (MOUT, MOTW)



Technology Trends



- ***TRAINING TRENDS (CONTINUED)***

- **Smarter, More Realistic CGF**
  Fuzzy & Artificial Neural Control
- **Networked** with larger number of players
- **Embedded** Intelligent, Individual, Unit, Multi-Unit
- **Merging** T, P, MR, Tactics Development
- **Modeling** of all types,but especially cognitive



Technology Trends



- ***TRAINING TRENDS (CONTINUED)***

- **CLASSROOM TO OTJ SUPPORT**
- **INCREASED USE OF PERFORMANCE SUPPORT TOOLS**
- **AUTOMATED PERF MEASUREMENT**
- **AUTOMATED TUTORS**
- **TEAM BASED LEARNING**
  - **Team skill & needs assessments**
  - **Team/Collaborative training**



Technology Trends



- ***COMPUTER HARDWARE/SOFTWARE TRENDS***

- **SMARTER, SMALLER COMPUTING DEVICES**
- **SMARTER WEB SOFTWARE**
- **SMALLER, SMARTER PROGRAMS**
- **INCREASED USE OF M&S IN TESTING**
- **INCREASED USE OF THE SYSTEM TO GUIDE ITS OPERATION AND MANIPULATION**



Technology Trends



Smarter Speech Recognition

Virtual Reality

- Gloves,headsets, visors, full-body immersion
- Sensors/actuators will be smaller, require less power and be less costly
- Eye Trackers

Human Factors

- Effect of automation on crew sizes

- **Understanding that simulation is a tool, not necessarily the end product**

Technology Trends

Visual System Technology

- HDTV
- Flat Panel Displays
- Head Mounted Displays
- Large Screen Displays
- 3-D Visual Display
  - Stereoscopic
  - Dynamic perspective
  - virtual workbench

Technology Trends

- **Improved Signal or Data Processing in all types of sensors**
  - Allows us to detect signals we previously couldn't
  - Increased commercial and military satellite availabililty now enables reduced cost real-time communications and sensor data transfer
  - Trend to provide imbedded training on CD rather than formal schoolroom training
- **Virtual Environment Training Technology**
- **Littoral Environment Simulation**

Technology Trends

Multi-Media Training Software Development

- **Multimedia ---**
  - » Digital Sound
  - » Digital Video
  - » Animation
  - » Text
  - **Computer Processing will become faster**
  - **CD-ROMs will hold more data**

- ***CBT will be assembled not authored***



Technology Trends



Multi-Media Training Software Development

- Distributed Computing
  - Advancements in Network Bandwidth (ATM, FDDI) will continue
  - Industry Standards Foreseeable
    - Inter-Application Communications
    - Data Base Protocols
    - Internet/Network Protocols
    - Component Architectures

Technology Trends

Multi-Media Training Software Development

- Internet
  - Multimedia tools need to be capable of web content delivery (critical requirement for distance learning and distance training requirement)
- Java
  - Simple, portable, high performance
  - Reduced coding complexity
  - Portability
  - Support by all mainstream web browsers

BAA ANNOUNCEMENT

- Broad Agency Announcement -- BAA NAWCTSD 96-1
- Issued 1 Jan 96; Expires 31 Dec 01
- To obtain copies of the BAA, call 407-380-8382
- Technical POC - Bob Hays, 407-380-8358
- Contracting Officer - Bob Riddle, 407-380-4095
- For more information, see our web site at

  http://www.ntsc.navy.mil/bf/reseng.htm

Live Fire Test and Training (LFT&T) Program

OBJECTIVE

Develop projects that support live fire testing and training, particularly projects in these focus areas:

- Modeling of Human Decision-Making Under Fire
- Distributed Mission Training
- Non Line-of-Sight Tactical Engagement
- Aviation Related Testing and Training
- Crew Safety and Survivability
- Embedded Training

Navy Project Manager:
LCDR Karen Hyde, Ph.D.
(407) 381-8903
HydeKR@navair.navy.mil

Live Fire Test and Training (LFT&T) Program

Proposed projects should have the following characteristics:

- Applicability to both training and LFT&E
- Training technology that has direct benefit to LFT&E
- LFT&E technology that has direct benefit to training
- Evidence of direct collaboration between testing and training communities
- Cross service/joint applicability
- Timely transition/implementation of technology
- Completion in less than two years
- Resulting cost savings to training and/or LFT&E
- Transition of project to operational use

Live Fire Test and Training (LFT&T) Program

NAWCTSD Current Projects

- Lethality Vulnerability Simulation Enhancements (NAWCTSD/Systems Research Group)
- Application of a Small Arms Simulator Testbed (NAWCTSD)
- Augmented Reality Based Fire Fighting for Total Ship Survivability Training (NAWCTSD/Creative Optics, Inc.)
- Dismounted Infantryman Survivability and Lethality Testbed (DISALT) (NAWCTSD)
- Enhanced Recovery of Aircrew from Acceleration Induced Loss of Consciousness (G-LOC)/Enhanced Acceleration Training (NAWCTSD)



Live Fire Test and Training (LFT&T) Program



AFAMS Current Projects

- Threat Warheads Effects/Battle Damage Assessment and Repair (TWE/BDAR) Training
  (AFAMS/USAFR/AFRL-VACS/US Army OC&S/
  Booz, Allen, & Hamilton)

- Enhanced Battle Damage Assessment Training
  (AFAMS)



Live Fire Test and Training (LFT&T) Program



STRICOM Current Projects

- Impact of Casualties: Human Patient Modeling (STRICOM/IST/METI)
- Simulation for Producing Realistic Munitions Impact Flash Events (STRICOM/ARL)
- Synthetic Environment for the Support of LFT of Ground Vehicles (STRICOM)
- Non-Ballistic Live Fire Test and Training Laser Threats (STRICOM/USAFRL-BrooksAFB/Litton-TASC)

Live Fire Test and Training (LFT&T) Program

17 Mar 99	Commerce Business Daily Announcement released requesting Project Papers for Proposed New Projects
01 Jun 99	White Papers due to LCDR Karen Hyde, NAWCTSD (No Late Submissions Accepted)
Jul 99	LFT&T Senior Advisory Group (SAG) Reviews Submissions/Cuts to Finalists
17-19 Aug 99	Testing and Training: A National Partnership 2nd Annual Symposium and Exhibition Double Tree Orlando Resort and Hotel
Sep 99	Finalists Brief to SAG -- SAG Prioritizes
Nov 99	LFT&T SAG Makes Final Cuts and Puts Together FY00 Program

Live Fire Test and Training (LFT&T) Program

For more information:

http://www.ntsc.navy mil

Then go to: (1) Business Opportunities

(2) Open Acquisitions

(3) Document Types = Sources Sought...

(4) Live Fire Test and Training Program



SBIR PROGRAM



- Two DoD SBIR solicitations are released annually.
- Solicitation periods for Phase I proposals open in October and May each year and close in January and July.
- POC: Robert Seltzer (407) 380-4115
  SeltzerRM@NAVAIR.navy.mil

For complete information on the SBIR program:

Navy: http://www.onr.navy.mil

Defense: http://www.dtic.mil/dtic.sbir

or call 1-800-DOD-SBIR

SBIR PHASE I

(May '99 Awards)

- Inertial Sensor Technology
- Advanced Control Features to Adapt Low-Cost Digital Display Based Projectors to Training Simulation
- Master Training plan (MTP) Generator for Fleet Replacement Squadrons (FRS's)
- Human Sensory Physiological Model for Centrifuge-Based Flight Environment Training
- Advanced Concepts in Terrain Modeling & Rendering
- MIP Insertion for Geo-specific Imagery
- Network Based Training (NAVSEA Sponsor)
- Access Control and Personnel ID Verification for Training Applications Utilizing Smart Cards (ONR Sponsor)

SBIR PHASE I

(May '99 Awards)

- Night Vision Goggles (NVG) Simulation/Stimulation
- Geographical Information System (GIS) Advancements for Mission Rehearsal
- Tools for Linking Training to Combat Readiness
- Software Tools to Create Bump-Mapped Texture

SBIR PHASE II

- Low-Cost, PC-Based Navigation Skills, ATC & Crew Coordination Training Tool
- Software Package for Speaker Independent or Dependent Speech Recognition
- Tradeoff Techniques for Training Using Multimedia
- Modeling & Applying Distributed Training for Multi-Platform Naval Air Missions
- Stereoscopic Image Generation with Multi-focal Augmentation

SBIR PHASE II (Cont)

- Training Amphibious Forces with Video Games (Marines)
- Automated Site Model Generation (Marines)

TECHNOLOGY TRANSFER

Technology Transfer allows sharing/leveraging of:

- Personnel, Facilities, Equipment, & Software

Types of Agreements

- Cooperative R&D Agreements (CRADAs)
- Cooperative Agreements
- Interagency Agreements
- Memorandums of Understanding/Agreement

Dual Use Program

- Commercial Operations Support Savings Initiative (COSSI)
- Dual Use S&T Program

NAVAIR Partnership Guide

- See The Partnership Advantage @ www.ntsc.navy.mil

NAWCTSD Project Manager

JANET WEISENFORD

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WeisenfordJM@navair.navy.mil

COMPLETED CRADAS

- MOTOROLA
  - Network Interface Unit for DIS
- ECI SYTEMS
  - Commercialization of 3-D Technology
- DIGITAL EQUIPMENT CORPORATION
  - Transportability of Flight and Simulation Software
- SBS TECHNOLOGIES
  - Firearms Training System for Commercial Applications
- ENCORE
  - Evaluation of Distributed Interactive Simulation
- SIMULATION INITIATIVES
  - Commercialization of Simulation Technology
- PARAGON GRAPHICS
  - Evaluation of HMD Technology for Flight Simulation
- UNIVERSITY OF CENTRAL FLORIDA
  - Evaluation of Software Tools
- EASTERN KENTUCKY UNIVERSITY
  - Evaluation of Security Training

CURRENT CRADAS

- **PRIMARY IMAGE**
  - Develop and Evaluate Prototype Training Systems Using Low Cost PC Based Image Generator Technology
- **INTERGRAPH COMPUTER SYSTEMS**
  - Demonstration and Evaluation of Transportability of Existing Photoimagery Data Bases and Simulation Software
- **JARDON AND HOWARD TECHNOLOGIES, INC.**
  - TRADAM Assessment
- **ADVANCED SYSTEMS TECHNOLOGY**
  - Development of 911 Operator Training
- **INTERNATIONAL PEACEKEEPERS CORPORATION**
  - Development of Simulation Center for Training Law Enforcement & Special Unit Military Personnel

OTHER CURRENT AGREEMENTS

Cooperative Agreement:

FIRE ARMS TRAINING SYSTEMS, INC.

- Commercialization of Weapons Team Engagement Trainer WTET)

EDUCAUSE

- Establish Standards for ADL

Interagency Agreement:

NATIONAL INSTITUTE OF JUSTICE

- Training Technology Development and Implementation

Memorandum of Understanding

NATIONAL GUARD BUREAU

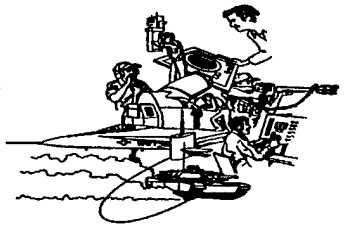
- Facilitate shared use of the National Guard's Distributed Training Technology Project Sites

Other Transaction

ASYMETRIX

- Artificially Intelligent Tutoring for Advanced Distributed Learning

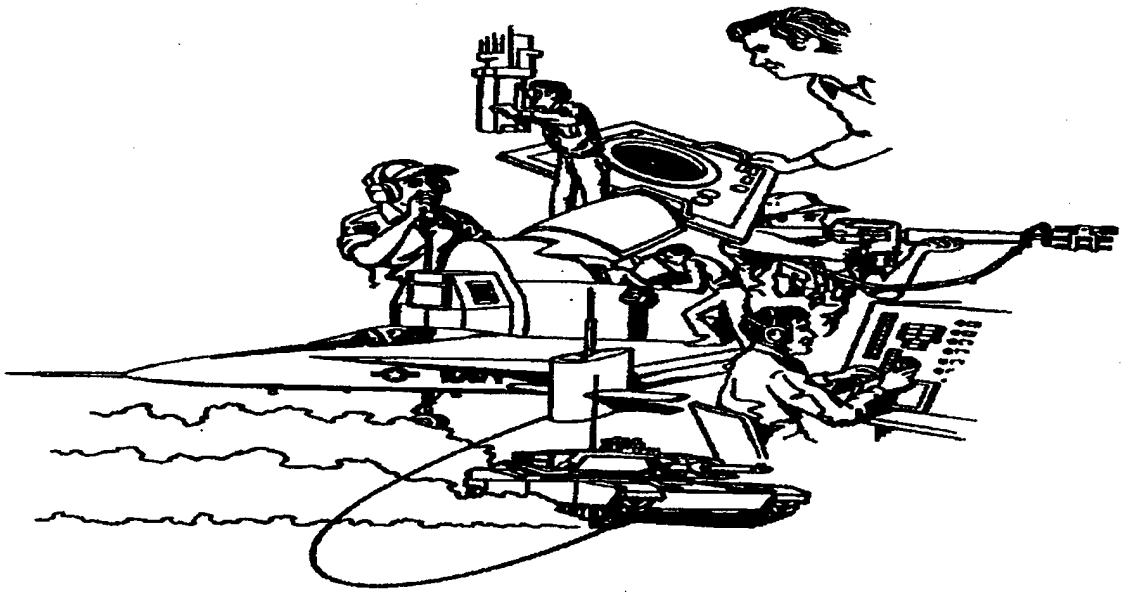
WANT MORE INFO?



For more complete descriptions of projects and points of contact, see our web site at:

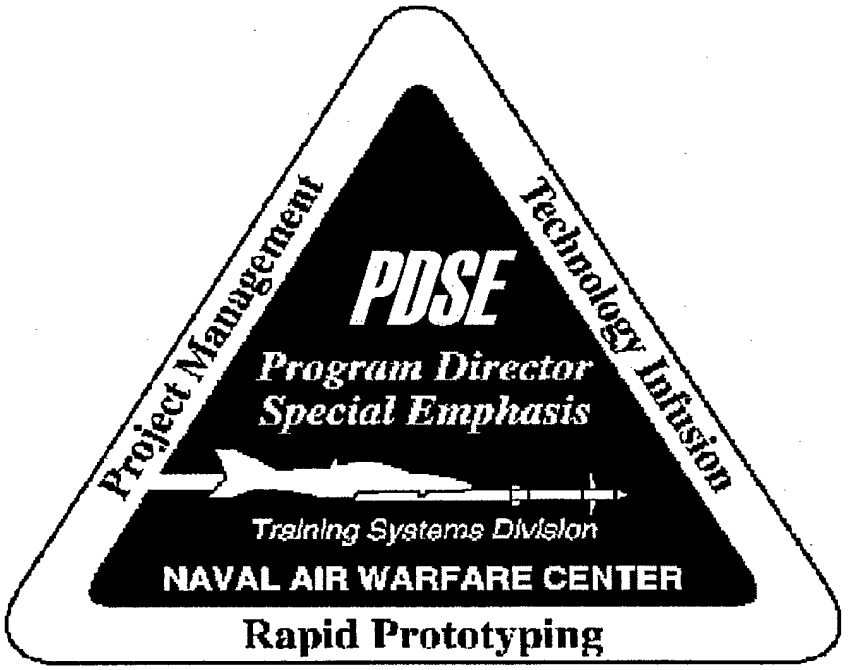
http://www.ntsc.navy.mil

ADVANCE PLANNING
BRIEFING TO INDUSTRY



BILL HARRIS
PROGRAM DIRECTOR, RESEARCH & TECHNOLOGY
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HarrisWT@navair.navy.mil

ADVANCE PLANNING BRIEFING TO INDUSTRY



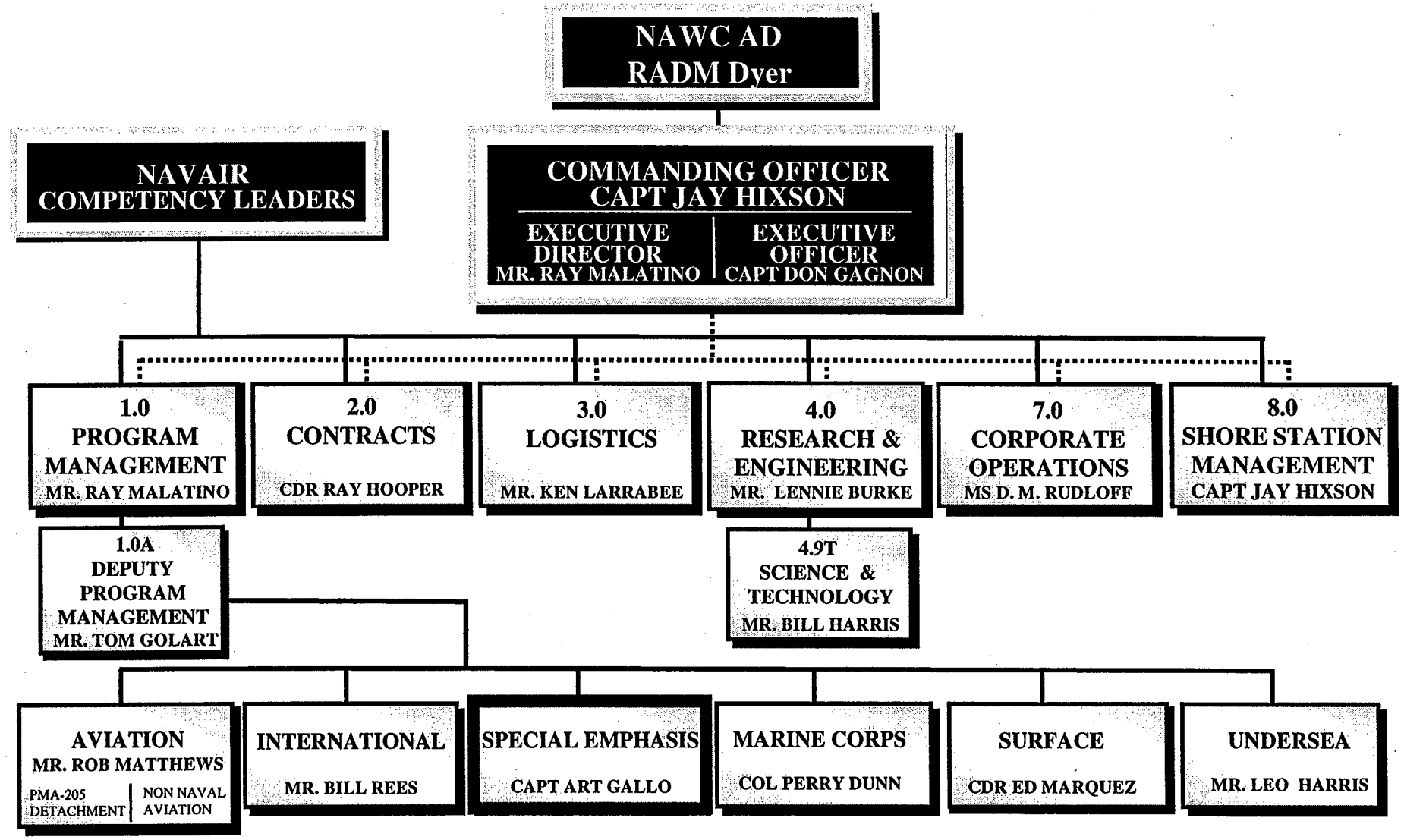
APRIL 1999

Curt Jones

Deputy Program Director, Special Emphasis

JonesLC@navair.navy.mil (407) 380-4849

ORGANIZATION STRUCTURE



CB0009E

Special Emphasis - 11E

- **Purpose: To provide an organizationally visible place for any client's work that pertains to Multiple warfare areas, Joint, and Non-DoD**
  - Program Management
  - Rapid Prototyping
  - Technology Infusion
- **Mission:**
  - To identify and execute applicable programs
  - To market potential applicable programs
  - To coordinate efforts related to sharing of knowledge

The "Non-Traditional" Directorate...

Special Emphasis - 11E

CAPT Art Gallo
Director

Mr. Curt Jones
Deputy Director

C4ISR/IT21/SBA CDR John Colville	SPECOPS Mr. Curt Jones
DMSO Mrs. Ruth Willis	DARPA Mr. Larry Willis
SECRETARY Ms. Bettye Davis	BFM Mrs. Joanne Dickerson

RESERVE ADL/ SPAWARS Mr. Ron Root	DOE/NMHSA Chief Thompson	OTT/CNET Mr. Ray Shands Mr. Ed Moore	JSIMS/WISSARD Mr. Joe Santilli	M & S Mr. Greg Pryor	NAVY ADL Ms. Vickie Moore

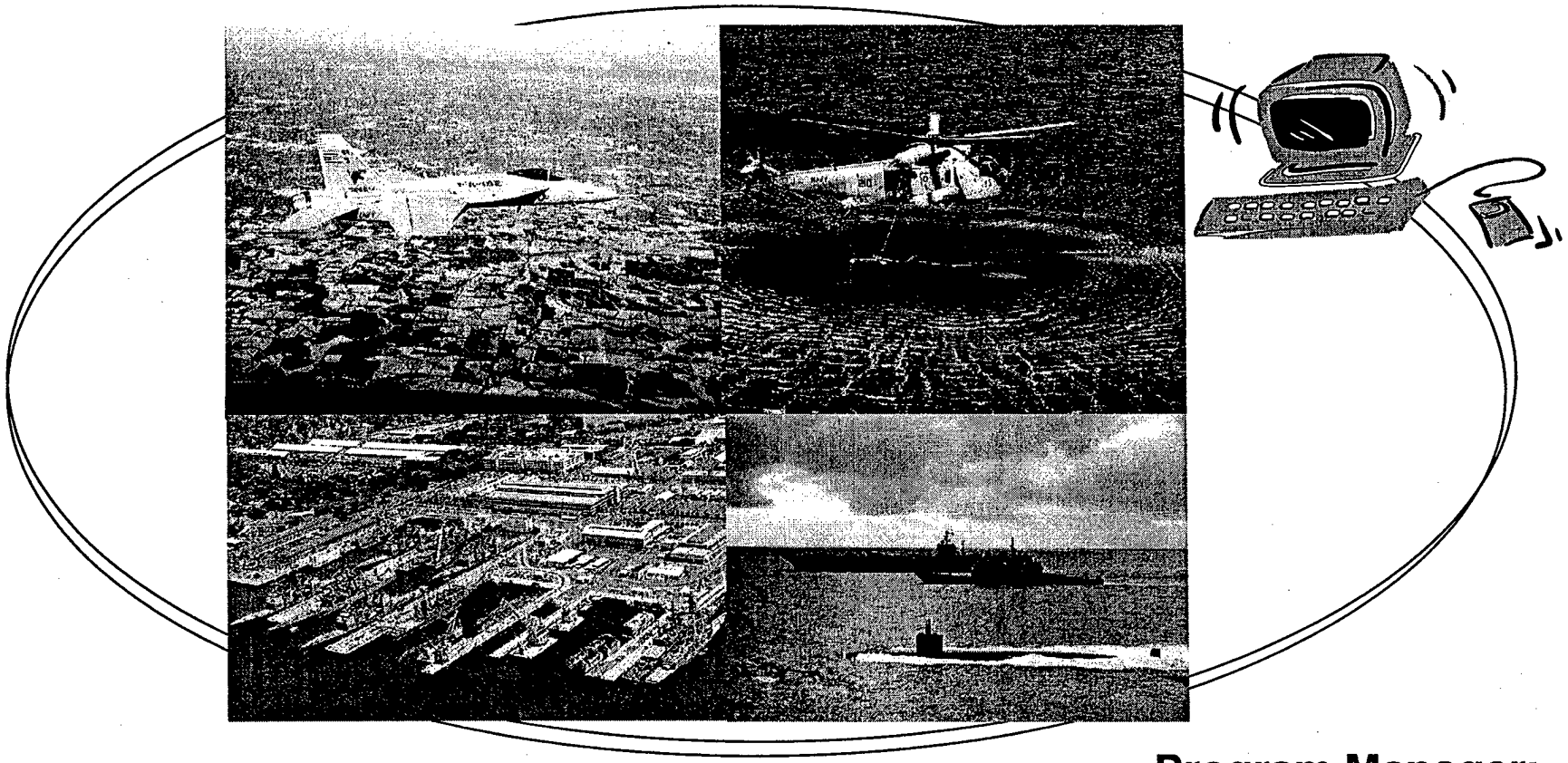


Captain Art Gallo, (X-4441)

GalloAW@navair.navy.mil

Project	PJM	Phone	Sponsor
M&S/Tech Infusion & Rapid Prototyping	Greg Pryor	(407)380-4744 PryorGD@navair.navy.mil	
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Reserve DL NRPDC	Ron Root	(407)380-4872 RootRL@navair.navy.mil	CNRF
SPECOPS (JSOMP/MPARE)	Curt Jones	(407)380-4849 CurtLC@navair.navy.mil	USSOCOM
STOW/WISSARD/JSIMS	Joe Santilli	(407)380-4234 SantilliJF@navair.navy.mil	DARPA ASTT
DMSO Representative	Ruth Willis	(703)824-3438 SMTP:rpwillis@msis.dmso.mil	
DARPA Representative	Larry Willis	(703)696-7448 SMTP:lwillis@darpa.mil	
ASTT	Greg Pryor	(407)380-4744 PryorGD@navair.navy.mil	DARPA
C2PC(GCCS-M)	Ron Root	(407)380-4872 RootRL@navair.navy.mil	SPAWAR
OTT/SPIDER	Ray Shands	(407)380-4291 ShandsRC@navair.navy.mil	CNO
ROBOCON NMHSA	Chief Adam Thompson	(407)380-4079 ThompsonAD@navair.navy.mil	DOE(FETC) DOL
NALCOMIS OMMS NG	Ron Root	(407)380-4872 RootRL@navair.navy.mil	SPAWAR
GDT/HPT/Leadership Trng AUTEC	Ray Shands	(407)380-4291 ShandsRC@navair.navy.mil	CNET NUWC

Navy Distributed Learning Program



Program Manager:
Ms. Vickie Moore
NAWCTSD (11E2)
(407) 380-4633 DSN: 960
MooreVM@navair.navy.mil

Navy DL Strategy

- **Navy-Wide Distributed Learning Planning Strategy**

  Signed out by VADM Tracey, Director of Naval Training, N7, on 7 December 1998

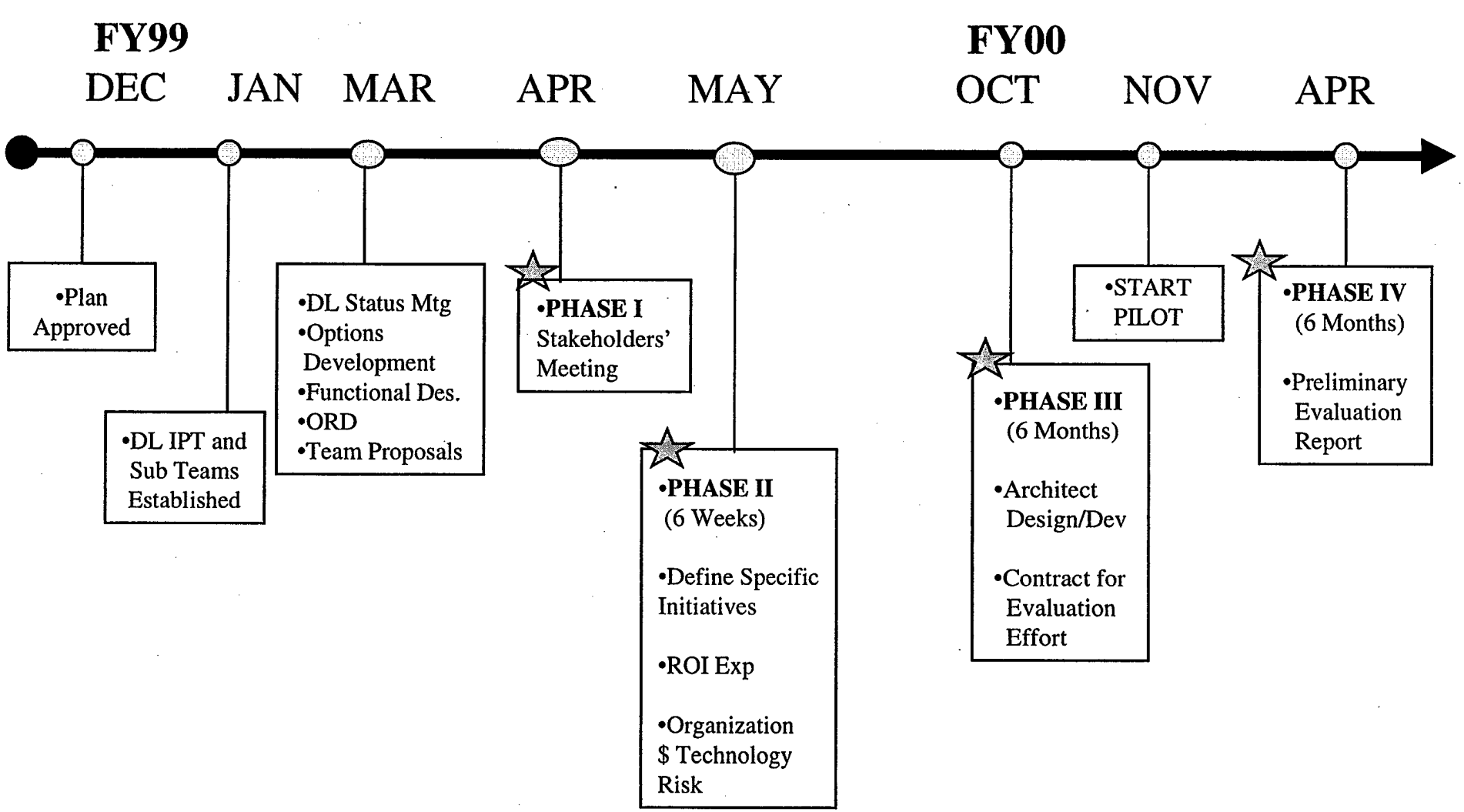
  "This plan outlines a strategy for implementing a Navy-wide Distributed Learning (DL) System. This planning strategy is a key piece to re-engineering Naval education and training to facilitate the Navy's Strategic Training vision - "deliver quality education and training -- to the right people, at the right time, and at the right place."

To Build The Navy's Distributed Learning Environment...

Navy DL Strategy

- **Distributed Learning System Description:**
  - Provide learning environments across time & space
  - Manage learning to ensure readiness across career continuums
  - Provide decision support through data warehousing and decision support tools
- **Implementation Strategy:**
  - Phase I: Develop Strategic Plan - Done
  - Phase II: Refine Strategic Plan; prioritized Initiatives and defined Metrics
  - Phase III: Implement Initiatives
  - Phase IV: Implement Prototype DL System
  - Phase V: Identify and Implement Enhancements

Navy DL Strategy



Navy DL Potential Work Areas

- Content
  - CMI standards
  - Common protocols
  - Interfaces
- Network & User Interface
  - Download Protocols
  - Java/html
  - Multimedia Format; streaming
- Protecting our investment
  - Transitioning our CBT to ADL environment tools

Looking for the onramp to the ADL Pathway…



Navy DL Strategy



Resource Requirements

- Identified in the CNET FY00 POM (BAM) as Net-Based Interactive Multimedia Instruction (IMI)

- Total Projected Funding Requirement for FY99 - FY05 > 20M

FY99	FY00	FY01	FY02	FY03	FY04	FY05
< 5M	< 5M	> 5M	> 5M	< 5M	< 5M	< 5M

- POC Ms. Vickie Moore, (407) 380-4633 MooreVM@navair.navy.mil

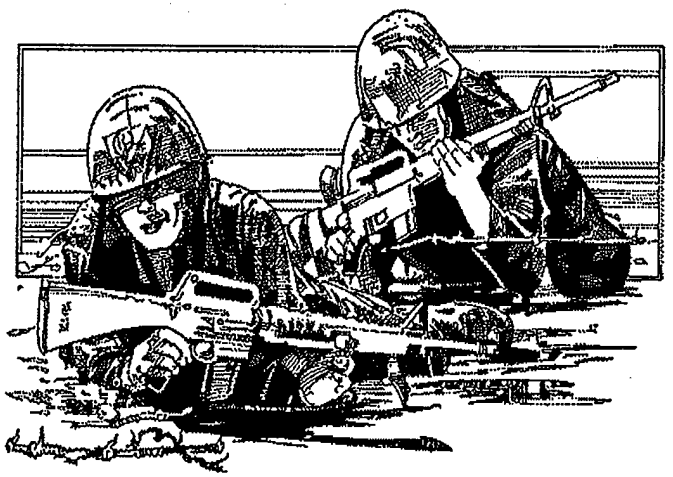
Special Operations (SPECOPS)



Program Manager:
Mr. Curt Jones
NAWCTSD (11E- Deputy Director)
(407) 380-4849 DSN: 960
JonesLC@navair.navy.mil

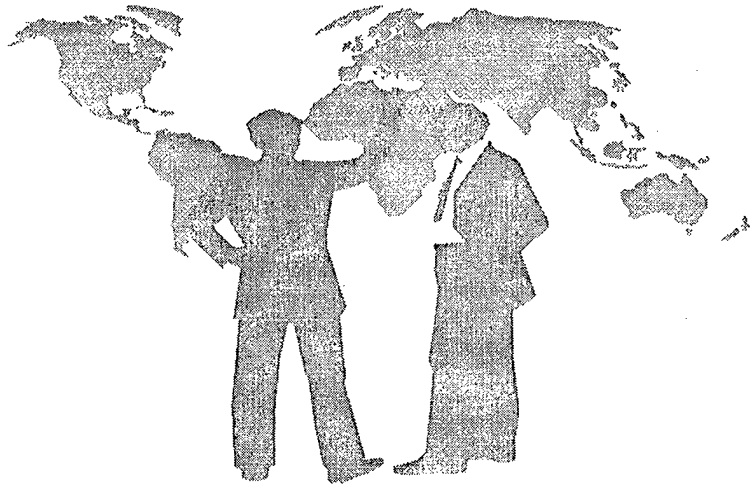
SPECOPS Background

- Technology progression for the services and joint commands has resulted in 'stovepipe' systems
- Special Operations Forces (SOFs) current automated systems are inadequate for supporting distributive collaborative planning at all levels
- Some systems are partially successful, yet use unique data and methods independent of other systems



SPECOPS Requirements

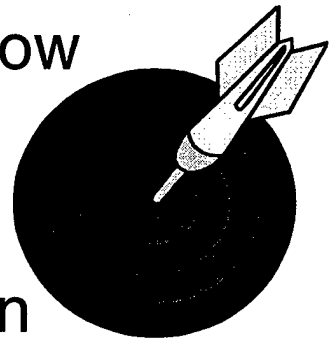
- **The ability to globally plan, analyze, rehearse and execute staff activities, training operations and military operations in peace and war**



- **This capability must include the day to day command and control of SOF worldwide**

Technology Advances

Yesterday	Today	Tomorrow
Distributed Joint Special Operations Task Force Initiative **(DJSOTFI)**	Joint Special Operations Mission Planning **(JSOMP)**	Mission Planning, Analysis, Rehearsal Execution **(MPARE)**



MPARE, a system of systems...

Vision for an MPARE System

- **The MPARE concept is a fully integrated "system of systems" which significantly enhances SOF's ability to plan, analyze, rehearse and execute its mission**



...planning (time) from 96 hours to 96 minutes!



SPECOPS Potential Work Areas



- Artificial intelligence interfaces into heuristic databases
- Smart decision making tools for command and control
- Advanced communications technology compression schemes
- Display technologies

Order of magnitude reduction in planning activity time

Planned Acquisitions

- Evolutionary acquisition :
  - Complies with existing and emerging standards
  - User friendly
  - Provides multi-level security
  - Achieves near real-time situational awareness through interactive data transfer
  - Interoperable with appropriate DOD, joint service systems
- Fiscal year of award 01

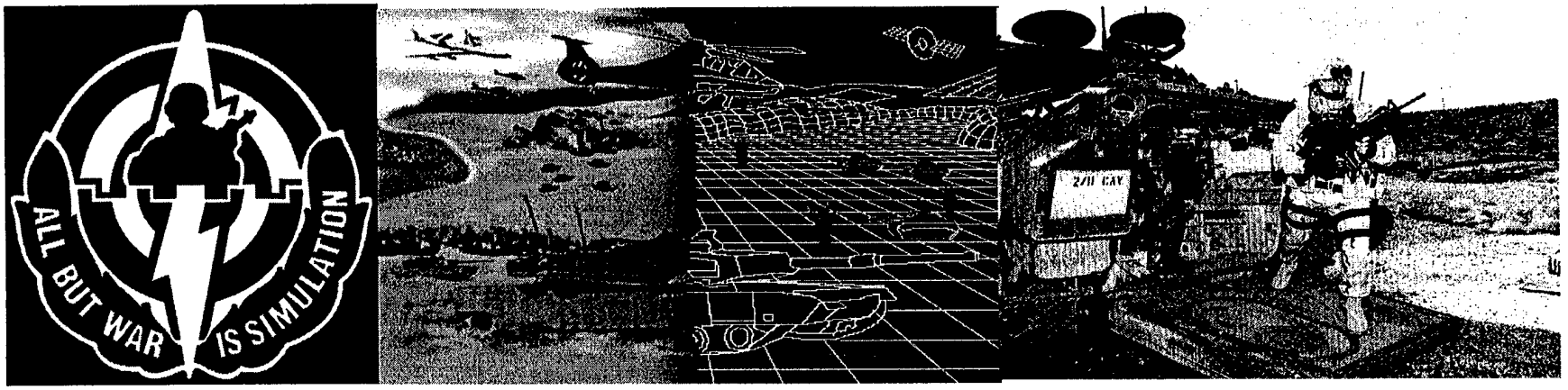
FY99	FY00	FY01	FY02	FY03	FY04	FY05
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- POC Mr. Curt Jones, (407) 380-4849 JonesLC@navair.navy.mil

Captain Art Gallo, (X-4441)

GalloAW@navair.navy.mil

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DMSO Representative	Ruth Willis	(703)824-3438 SMTP:rpwillis@msis.dmso.mil	
DARPA Representative	Larry Willis	(703)696-7448 SMTP:lwillis@darpa.mil	
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NALCOMIS OMMS NG	Ron Root	(407)380-4872 RootRL@navair.navy.mil	SPAWAR
GDT/HPT/Leadership Trng AUTEC	Ray Shands	(407)380-4291 ShandsRC@navair.navy.mil	CNET NUWC



Technology Challenges

Dr. Michael Macedonia

Chief Scientist

U.S. Army Simulation Training & Instrumentation Command

Overview

- Strategic Objectives
- Future Product Mix
- Commercial Developments

Strategic Objectives

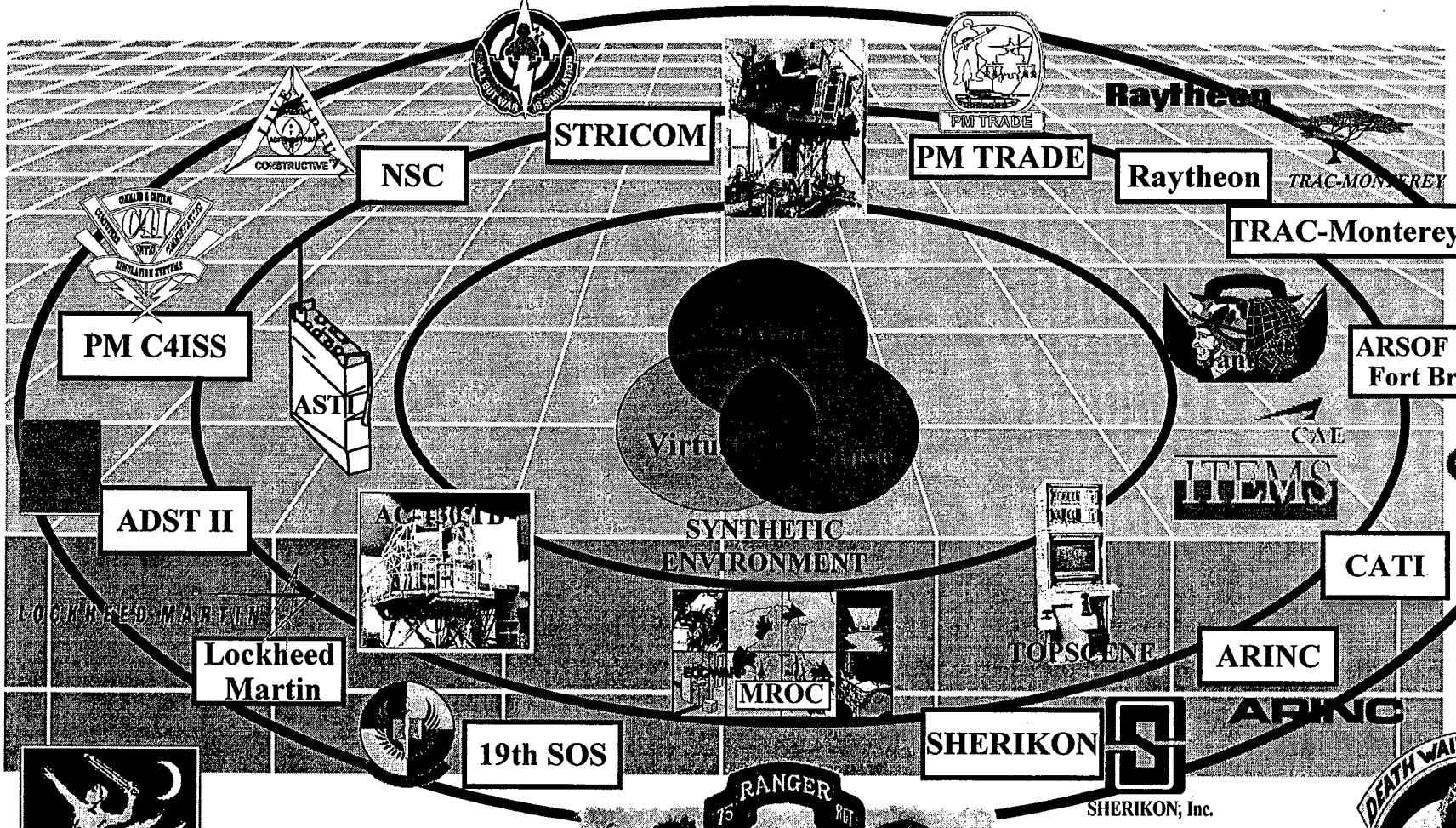
- ▼World's Best Technology for World's Best Army
- ▼Technology-enabled Training
- ▼Provide a Path for New Products
- ▼Integrate across Product Lines
- ▼Pursue Information Technology while Integrating Training and Human Factors Research from ARI/ARL
- ▼Develop Partnerships across DoD, International, Academic
- ▼Exploit Commercial Tech

Future Product Mix

- Mission Rehearsal for Strike Force
- Core Instrumentation for CTC's, Homestation, Deployment
- Web-based Distributed Learning
- Embedded Simulation
- Simulations and databases to enable SBA/SMART
- Commercial games

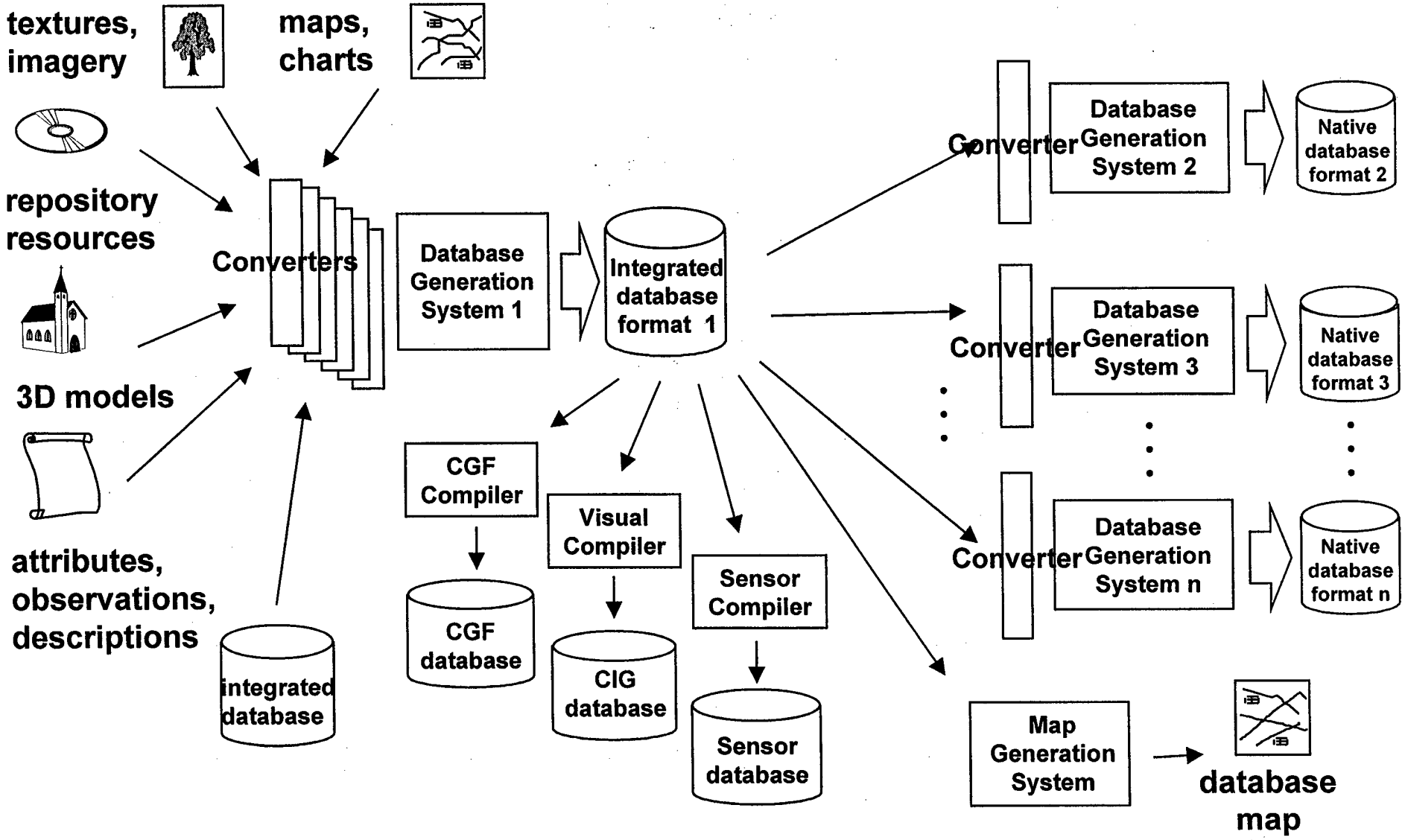
160th SOAR(A) Mission Rehearsal Exercise







The Database Issue for Mission Rehearsal and Strike Force



Commercial Developments

- OpenSource
- Java, Java Beans, Java 3D
- Wintel Platforms
- XML
- Mobile computing
- PC-based 3D Graphics
- VRML
- Web-centric computing
- SATCOM
- Commercial Games
  - Interfaces
  - AI development
  - Playstation II





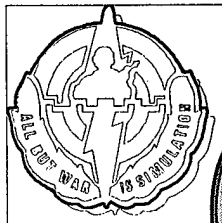
WWW.STRICOM.ARMY.MIL

PM TRADE



Advanced Planning Briefing for Industry (APBI) 1999

UNCLASSIFIED
ADVANCED PLANNING BRIEFING FOR INDUSTRY





PM TRADE

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Project Manager for Training Devices
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(407)384-5200, DSN 970-5200
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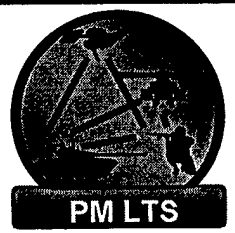
DPM: Phillip E. Sprinkle
(407)384-5202, DSN 970-5202
EMAIL: Phillip_Sprinkle@stricom.army.mil

APM DT

LTC Ron Harper, APM
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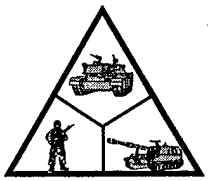
PM LTS

LTC C. G. Gault, Jr., PM
Live Training Systems
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(407)384-5190
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email: Chuck_Gault@stricom.army.mil



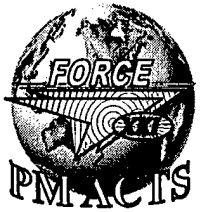
PM GCTS

LTC Matthew Fair, PM
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DSN 970-5160
email: Matthew_Fair@stricom.army.mil

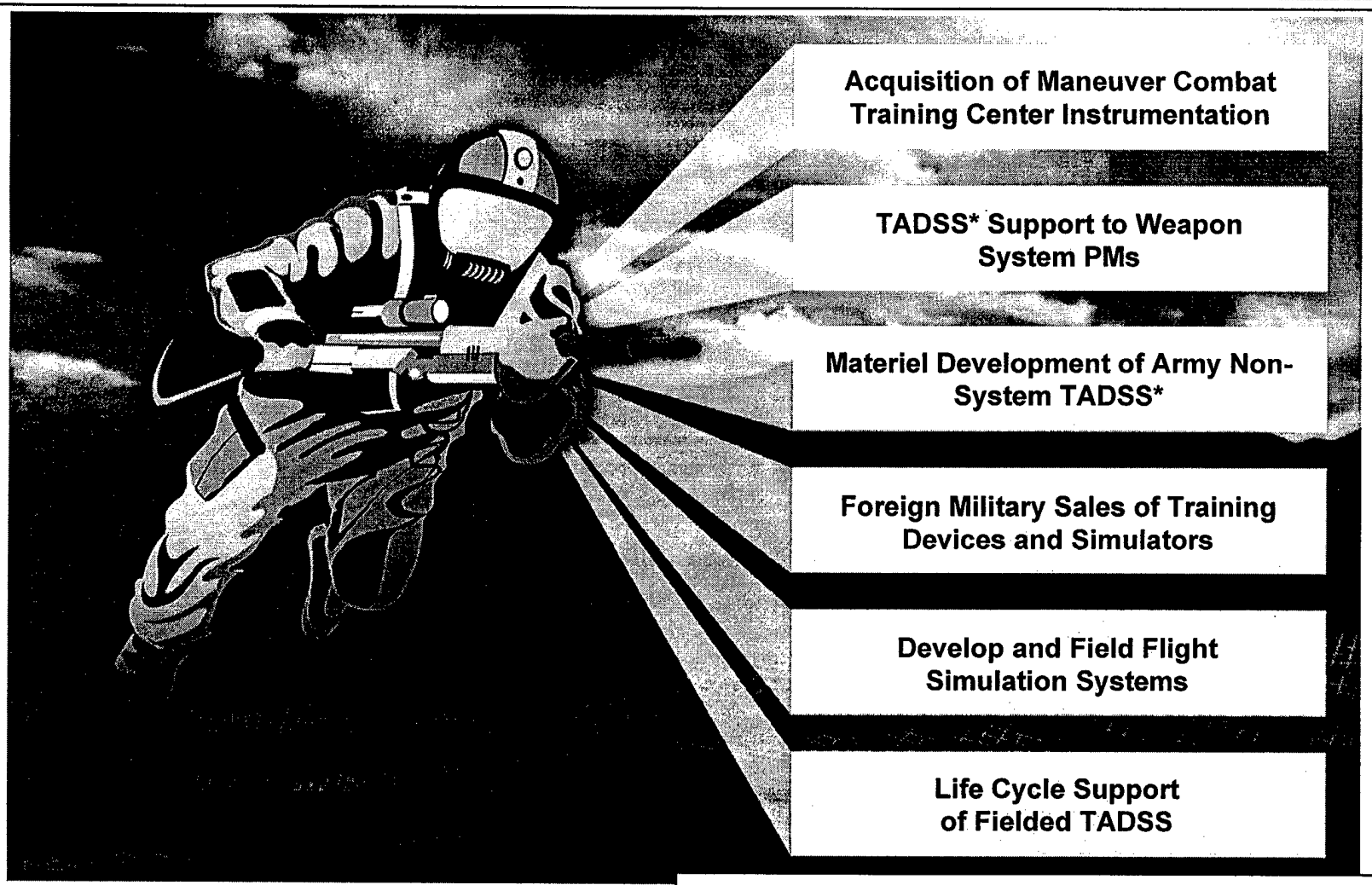


PM ACTS

LTC Robert Hallagan, PM
Air and Command Training Systems
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Orlando, FL 32826-3276
(407)384-5140
DSN 970-5140
email: Rob_Hallagan@stricom.army.mil



PM TRADE Mission Focus. . .
What We Do for the Army



- Acquisition of Maneuver Combat Training Center Instrumentation
- TADSS* Support to Weapon System PMs
- Materiel Development of Army Non-System TADSS*
- Foreign Military Sales of Training Devices and Simulators
- Develop and Field Flight Simulation Systems
- Life Cycle Support of Fielded TADSS

*TADSS - Training Aids, Devices, Simulators and Simulations

MAJOR TECHNOLOGY THRUSTS

- Non Line of Sight Systems for Force on Force Live Training Simulations (Non Line of Sight Weapons)
- Lightweight Personnel Detection Devices (LPDDs)
- Component/System Miniaturization
- Fast Low Cost Terrain Data Bases for Mission Rehearsals and Training in Local Area Tactics
- Technology and Technology Leveraging for CTC Instrumentation Systems
- Lightweight, High Energy Density Batteries
- Embedded Simulations

FUNDING SOURCES

- Training Mission Area (TMA)
- Customer
  - System PMs
  - National Guard
  - FMS

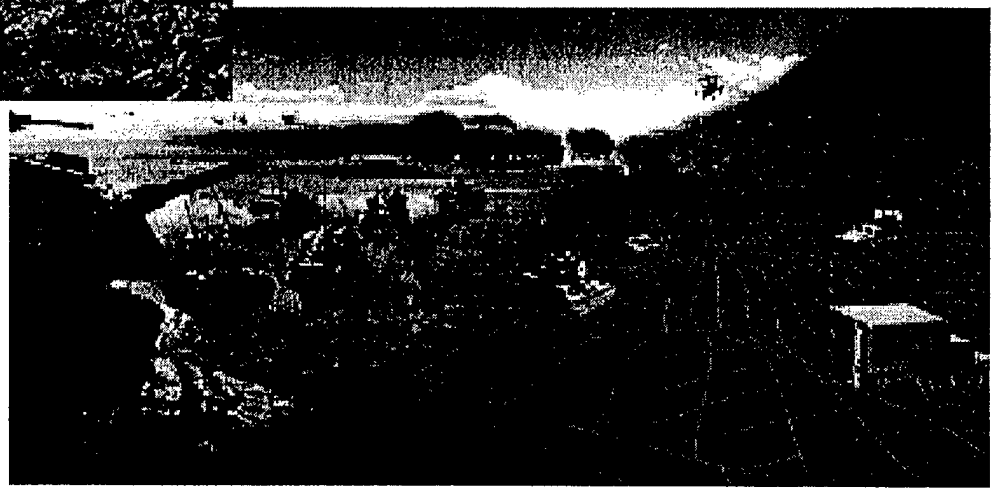
Organization of Assistant Project Manager Digitized Training

- **Develops, Acquires and Fields Training Instrumentation for:**
  - **National Training Center**
  - **Homestation**
- **Develops, Acquires and Fields Fixed Tactical Internet for Installations**

NATIONAL TRAINING CENTER
OBJECTIVE INSTRUMENTATION SYSTEM

PM TRADE





UNCLASSIFIED
ADVANCED PLANNING BRIEFING FOR INDUSTRY

CONTRACTING OPPORTUNITY (U)

NTC Objective Instrumentation System
CONTRACTING OPPORTUNITY

>$100M
ESTIMATED VALUE

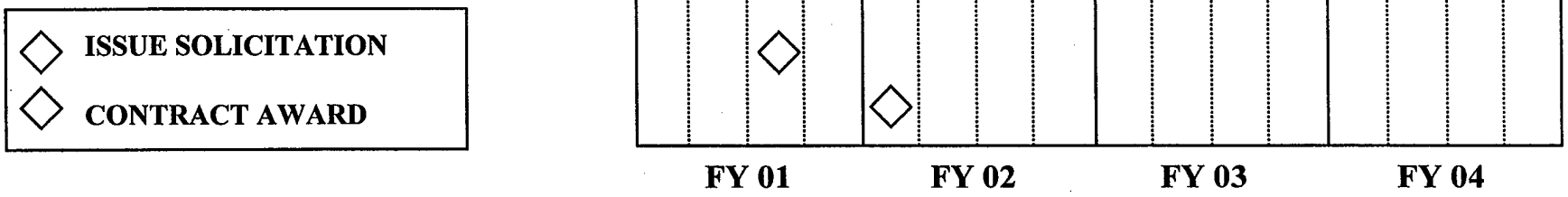
Paul Rhodes, (407)380-4869
CONTRACTS POINT OF CONTACT

Cost Type
CONTRACT TYPE

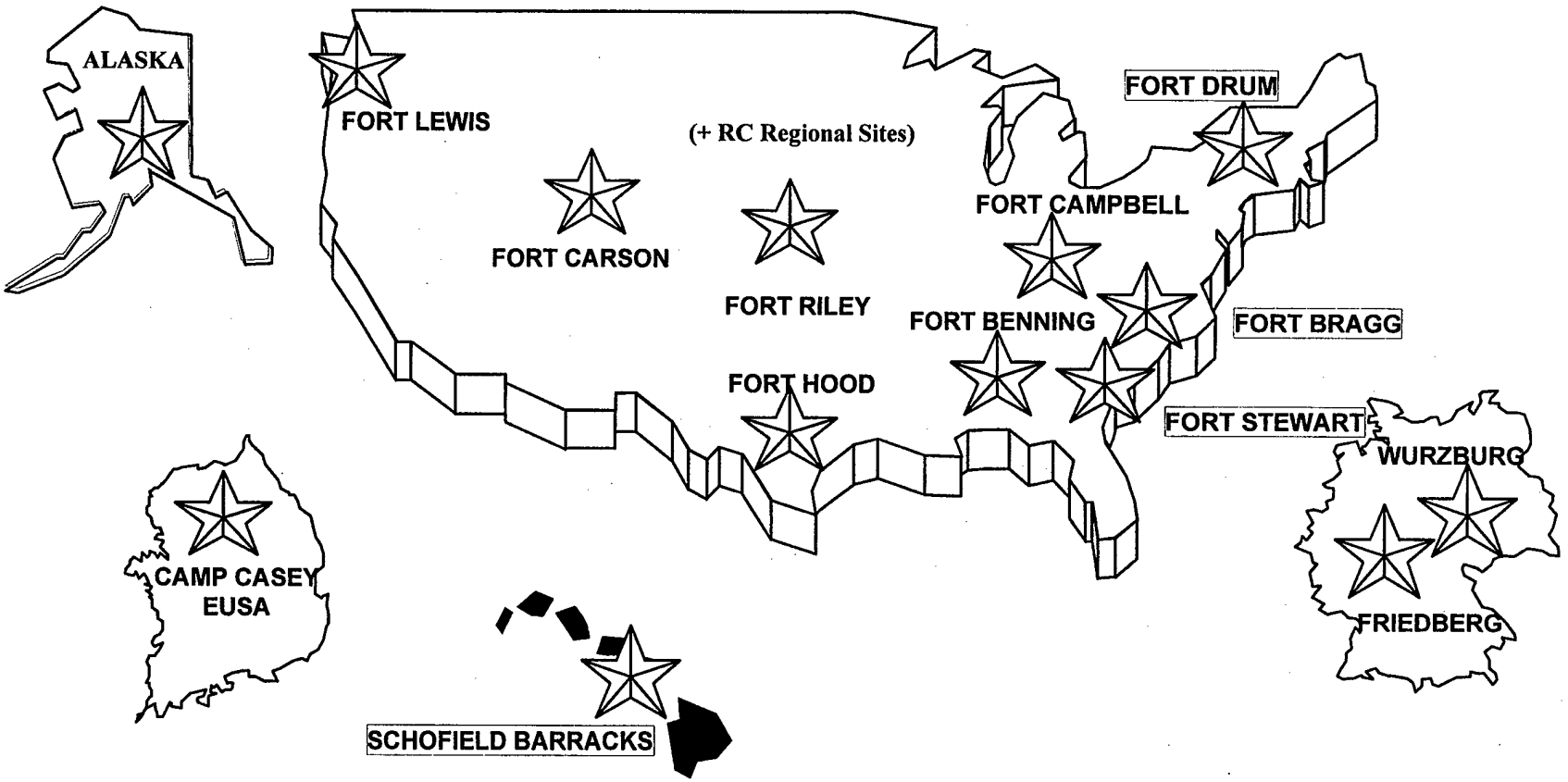
Competitive
KIND OF AWARD

PROGRAM DESCRIPTION:

The NTC Data Collection and Analysis system with bi-directional data communication system between instrumented players and an advance technology centralized data collection and analysis facility will provide: Exercise Planning, System Preparation, Exercise Management, Training Performance Feedback and System Support.



Homestation Instrumentation



UNCLASSIFIED
ADVANCED PLANNING BRIEFING FOR INDUSTRY

CONTRACTING OPPORTUNITY (U)

Homestation Instrumentation/Training System (HITS)
CONTRACTING OPPORTUNITY

Paul Rhodes, (407)380-4869
CONTRACTS POINT OF CONTACT

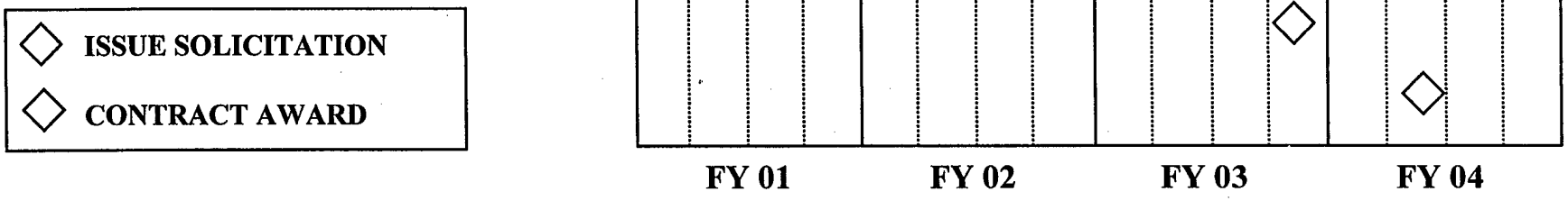
> $100M
ESTIMATED VALUE

FFI through EMD, FFP Production
CONTRACT TYPE

Competitive
KIND OF AWARD

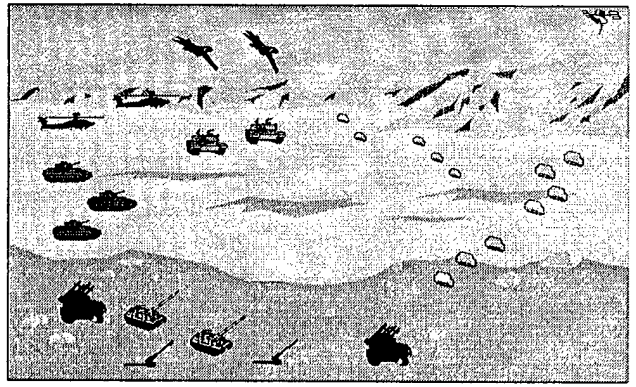
PROGRAM DESCRIPTION:

Provide state-of-the-art equipment and systems to simulate and stimulate tactical systems. Devices must deect/measure physical characteristics and events, record communications, system status/location and process event data for preparation of AARs.



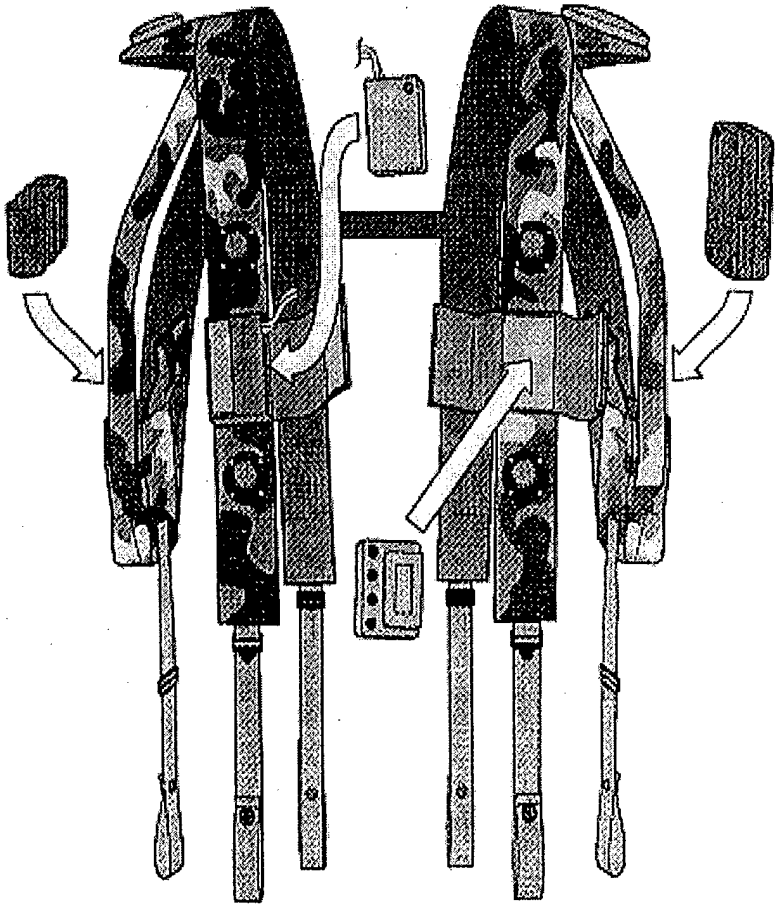
Organization of Product Manager for Live Training Systems

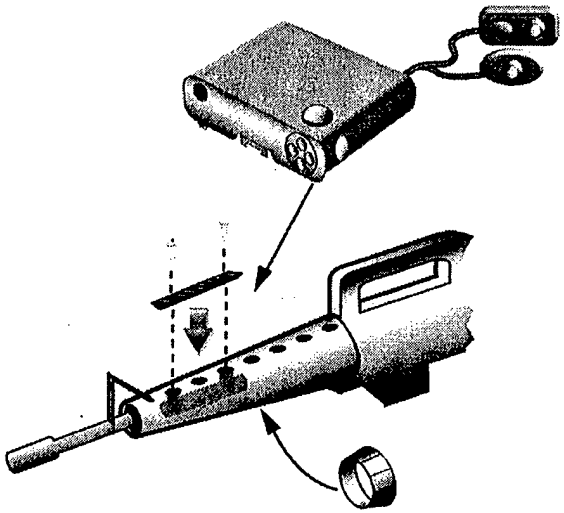
- Develops, Acquires and Fields Training Instrumentation for:
  - Combat Training Centers
  - Military Operations in Urban Terrain
- AMC Executive Agent for Combat Training Center Materiel Acquisition
- Acquires and fields Tactical Engagement Simulators for Live Training Simulation (Ground, Force-on-Force)
- Develops, Acquires and Fields Live Tactical Training Systems and Opposing Forces Surrogate Vehicles
- Central Army Point for Joint Training Instrumentation Materiel Development Projects
- Central Army Point for Foreign Training Instrumentation Materiel Development Projects



Lightweight Personnel Detection Device







UNCLASSIFIED
ADVANCED PLANNING BRIEFING FOR INDUSTRY

CONTRACTING OPPORTUNITY (U)

Lightweight Personnel Detection Device

CONTRACTING OPPORTUNITY

<$5M

ESTIMATED VALUE

Sharon McLaughlin, (407)381-4191

CONTRACTS POINT OF CONTACT

FFP

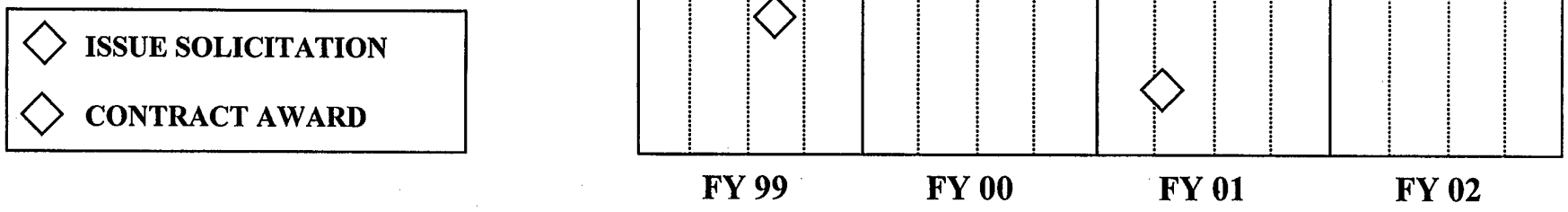
CONTRACT TYPE

Competitive

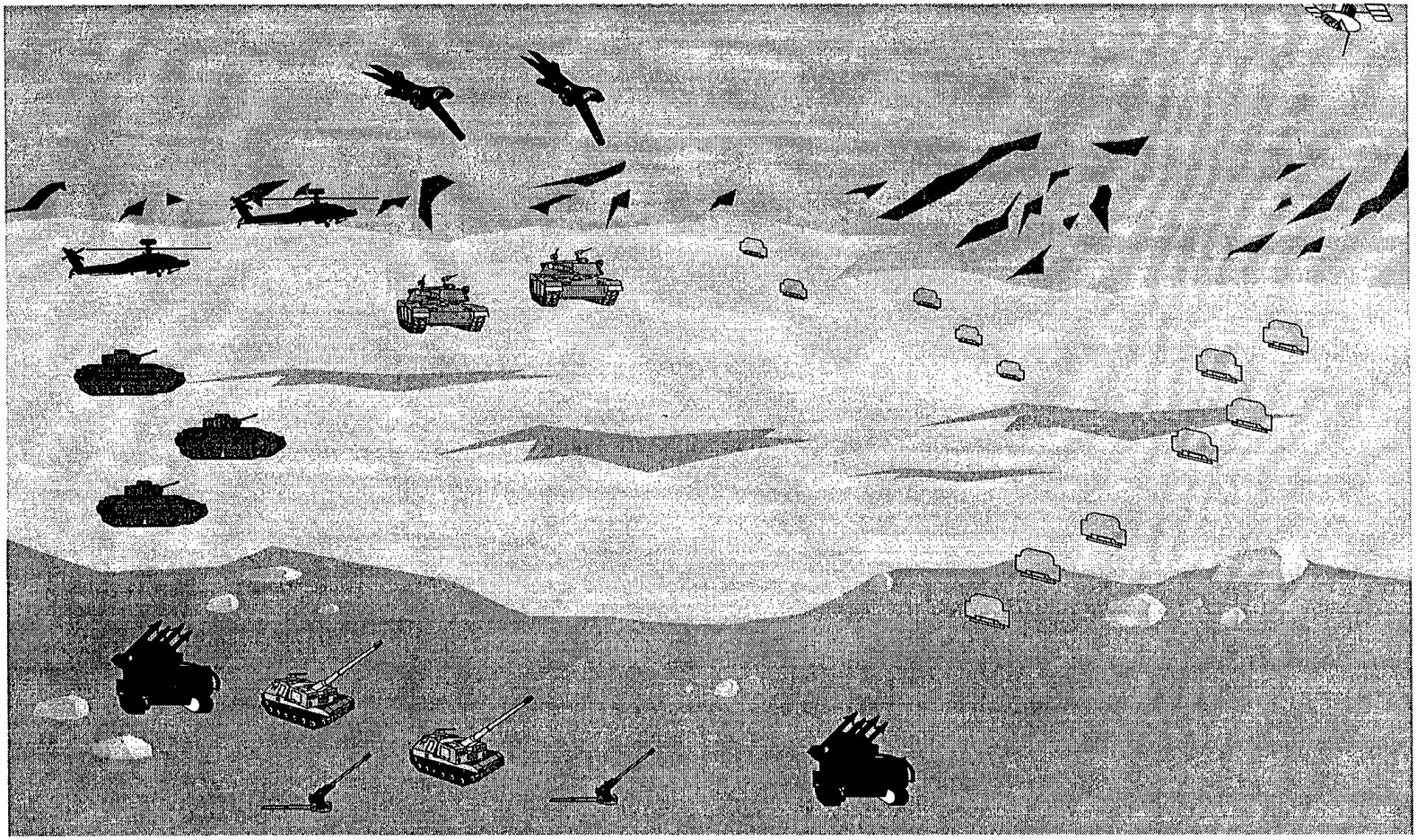
KIND OF AWARD

PROGRAM DESCRIPTION:

A dismounted combat soldier training device for data collection. Includes Tactical Engagement Simulation, Position Location, and Direct/Indirect Fire Simulations on instrumented battlefields and MOUT facilities. System will be integrated with Land Warrior, CIDDS, MILES 2000, Objective Instrumentation Systems, etc.



Combat Maneuver Training Center
Live Fire/Objective Instrumentation System
(CMTC LF/OIS)



UNCLASSIFIED
ADVANCED PLANNING BRIEFING FOR INDUSTRY

CONTRACTING OPPORTUNITY (U)

CMTC Live Fire/
Objective Instrumentation System
CONTRACTING OPPORTUNITY

> $100M
ESTIMATED VALUE

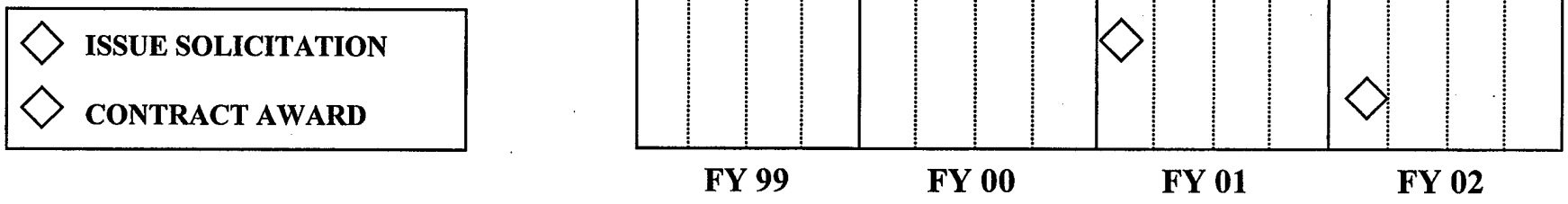
Felicia Ross, (407)380-4221
CONTRACTS POINT OF CONTACT

Cost Type
CONTRACT TYPE

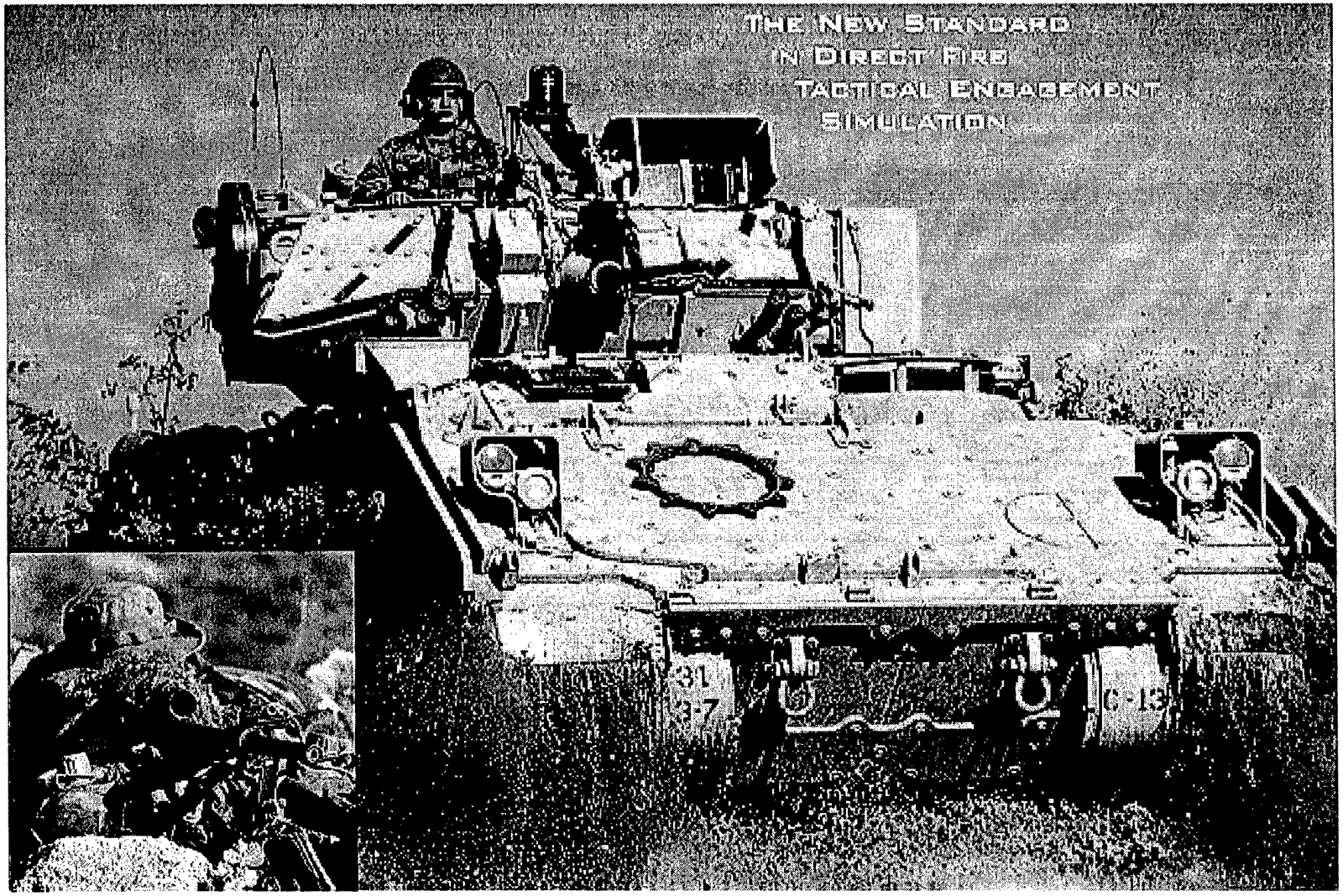
Competitive
KIND OF AWARD

PROGRAM DESCRIPTION:

A two phase program. Phase I is delivery of a CMTC Live Fire Instrumentation System toGrafenwoehr Training Area. This will be a deployable, automated data collection and analysis system for combined arms, live fire maneuver training exercises. This system will collect training performance data from a battalion-sized task force and advanced targetry for preparation and delivery of AARs. Phase II is delivery of a CMTC Objective Instrumentation System which will upgrade the existing CMTC Instrumentation System.



Multiple Integrated Laser Engagement System 2000 (MILES 2000) Follow On Procurement



UNCLASSIFIED
ADVANCED PLANNING BRIEFING FOR INDUSTRY

CONTRACTING OPPORTUNITY (U)

PM TRADE

PM LTS

MILES 2000 Follow On Procurement
CONTRACTING OPPORTUNITY

> $100M
ESTIMATED VALUE

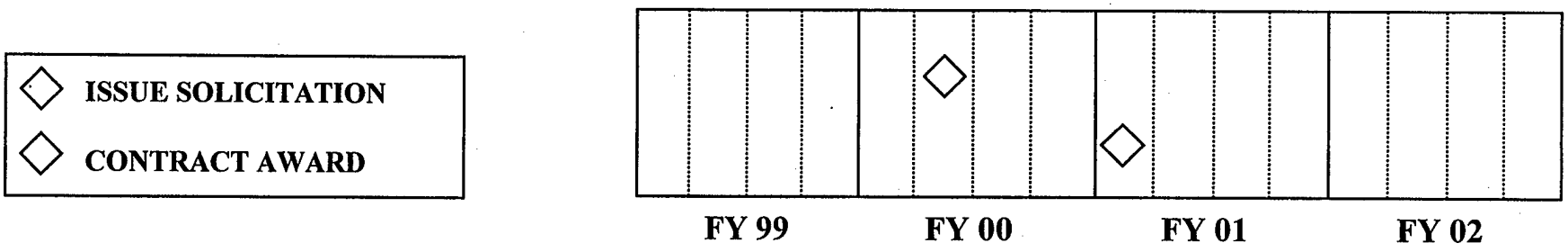
Michael Minor, (407) 380-4096
CONTRACTS POINT OF CONTACT

FFP
CONTRACT TYPE

Competitive
KIND OF AWARD

PROGRAM DESCRIPTION:

Continue the MILES 2000 Program's Replacement of Basic MILES at Homestation



Organization of Product Manager for Ground Combat Training Systems

PM GCTS

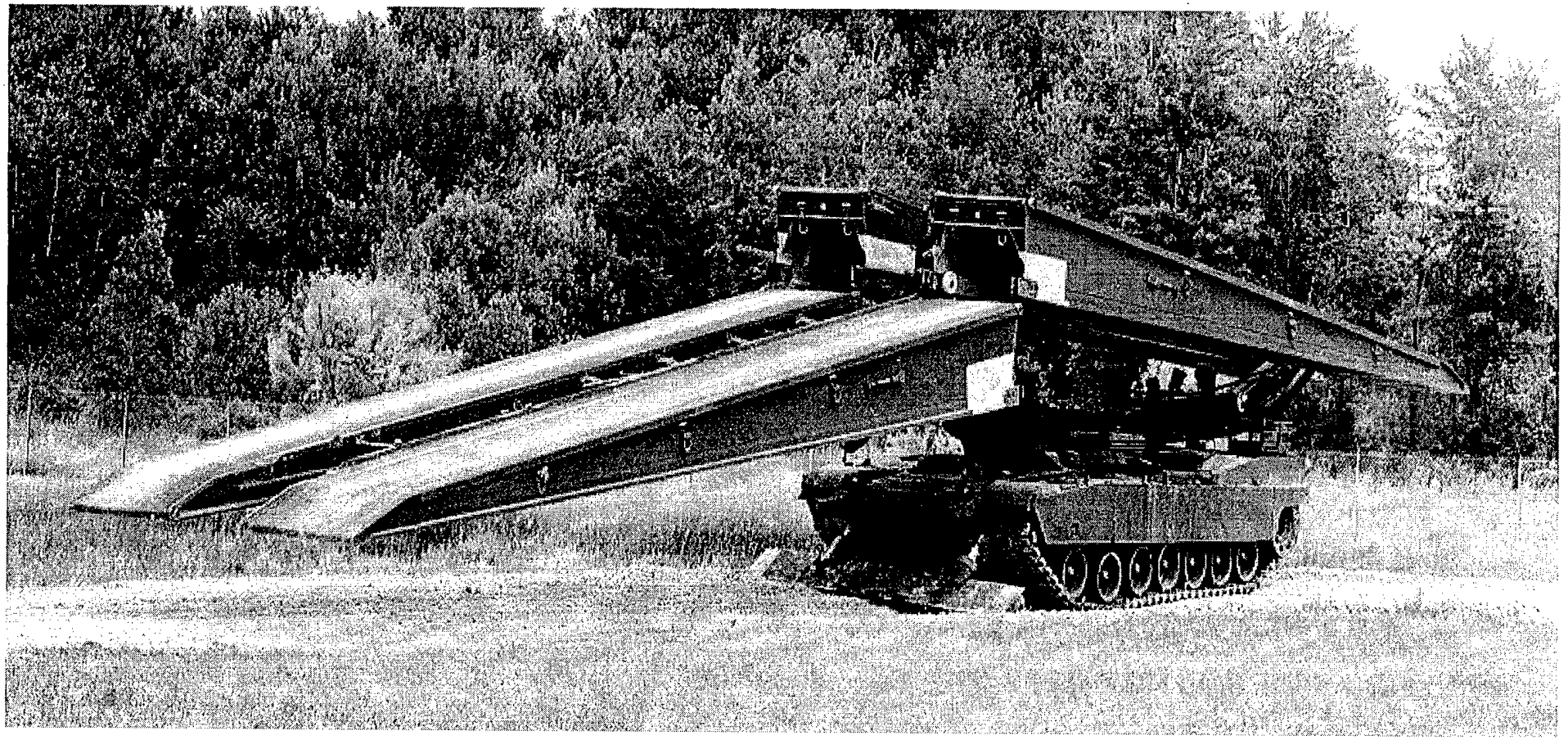
- **Develops, Acquires and Fields Training Instrumentation for:**
  - **Armor Center**
  - **Infantry Center**
  - **Fire Support Center**
  - **Engineering Center**

- **PM TRADE primary office for Foreign Military Sales**

PM TRADE

WOLVERINE TADSS

PM GCTS



WOLVERINE

UNCLASSIFIED
ADVANCED PLANNING BRIEFING FOR INDUSTRY

CONTRACTING OPPORTUNITY (U)

PM TRADE

PM GCTS

WOLVERINE (Heavy Assault Bridge) Trainers/Simulators

CONTRACTING OPPORTUNITY

>$15M

ESTIMATED VALUE

Felicia Kolb (407) 380-4221

CONTRACTS POINT OF CONTACT

Cost Plus and Firm Fixed Price

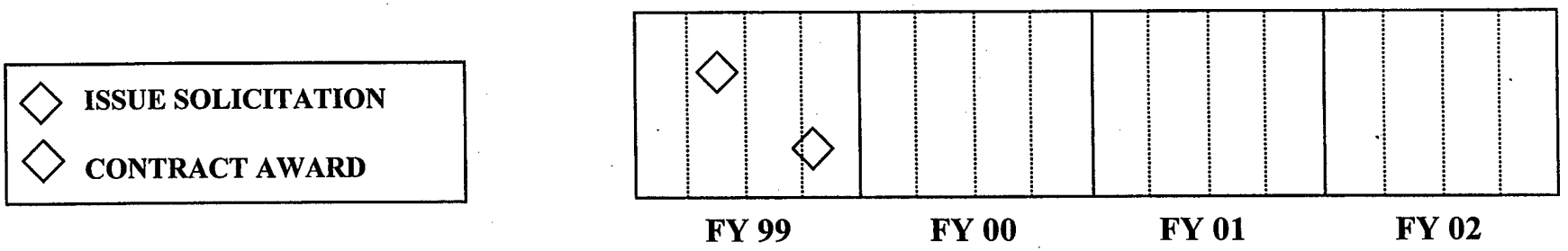
CONTRACT TYPE

Competitive

KIND OF AWARD

PROGRAM DESCRIPTION:

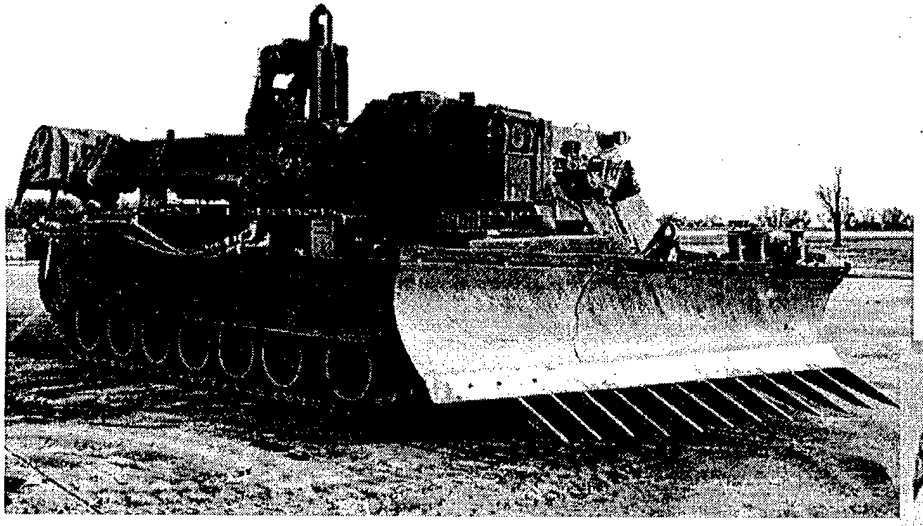
Develop and deliver Training Aids, Devices, Simulators and Simulations for the WOLVERINE Engineering vehicle.

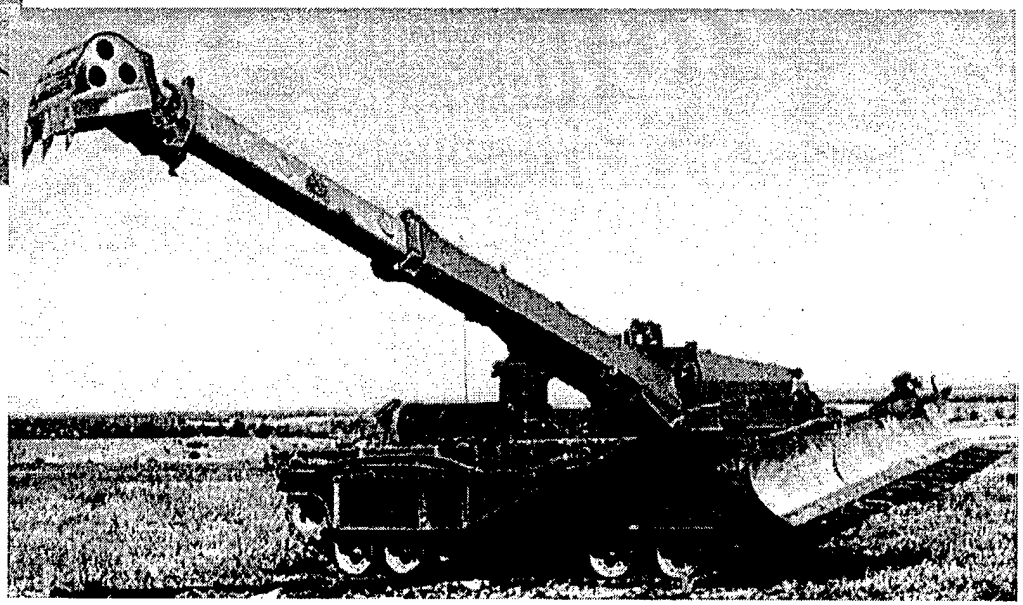


PM TRADE

TADSS

PM GCTS





GRIZZLY

UNCLASSIFIED
ADVANCED PLANNING BRIEFING FOR INDUSTRY

CONTRACTING OPPORTUNITY (U)

PM GCTS

GRIZZLY (M1 Breacher)

Trainers/Simulators
CONTRACTING OPPORTUNITY

Felicia Kolb (407) 380-4221
CONTRACTS POINT OF CONTACT

>$15M
ESTIMATED VALUE

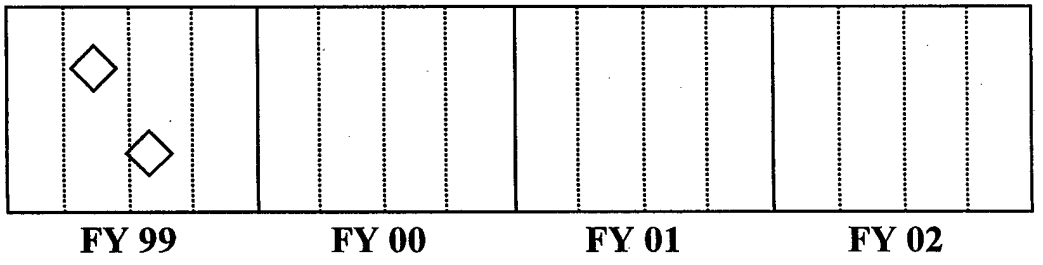
Cost Plus and Firm Fixed Price
CONTRACT TYPE

Competitive
KIND OF AWARD

PROGRAM DESCRIPTION:

Develop and deliver Training Aids, Devices, Simulators and Simulations for the GRIZZLY Engineering vehicle.

◇ ISSUE SOLICITATION
◇ CONTRACT AWARD



Organization of Product Manager for Air and Command Training Systems

- **PM ACTS is responsible for:**
  - **The acquisition management of Synthetic Flight Training Systems (SFTS).**
  - **Assigned systems and non-systems training devices for aviation, air defense, intelligence and electronic warfare, command and control, and air traffic control.**

A/MH-6 Light Attack/Assault Reconfigurable (LASAR)



- No training system exists
- New start funded FY00-02
- High Fidelity - WIDE Angle OTW
- Mission Rehearsal
- Reconfigurable for both AH/MH-6 Mission Enhanced "Little Bird"

UNCLASSIFIED
ADVANCED PLANNING BRIEFING FOR INDUSTRY

CONTRACTING OPPORTUNITY (U)

A/MH-6 Light Attack/Assault Reconfigurable (LASAR)

CONTRACTING OPPORTUNITY

>$15M

ESTIMATED VALUE

Ms. Sally Payne, (407) 380-4027

CONTRACTS POINT OF CONTACT

Cost Plus Fixed Fee

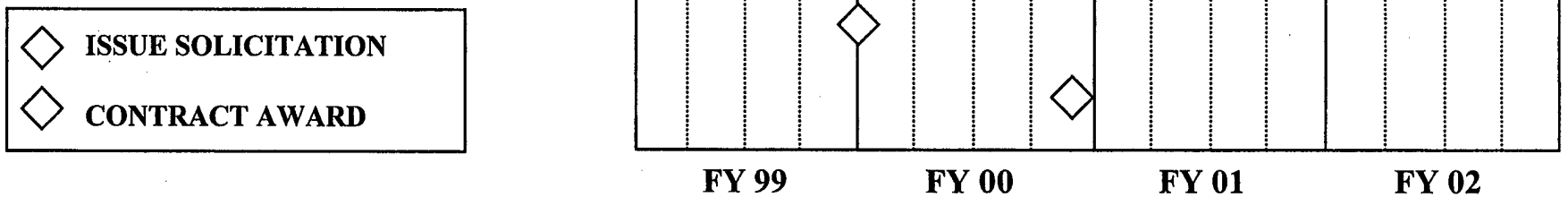
CONTRACT TYPE

Competitive

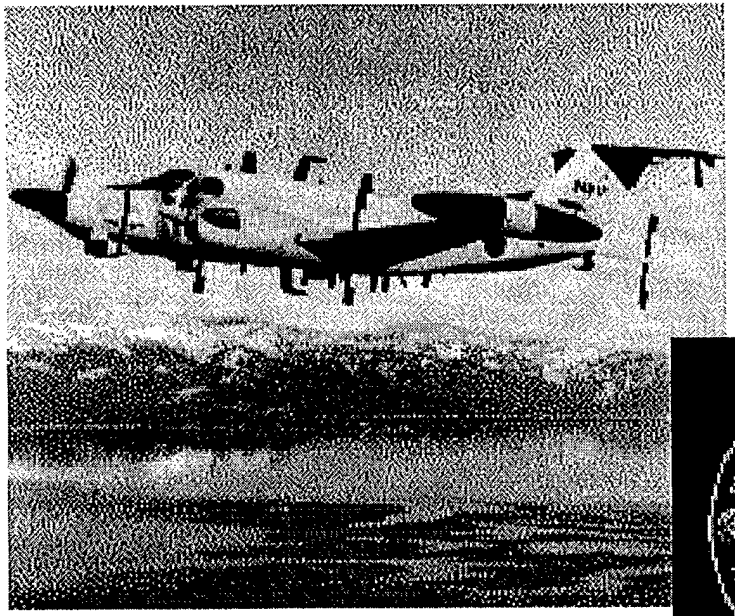
KIND OF AWARD

PROGRAM DESCRIPTION:

Procure a high fidelity, full motion, wide angle OTW visual, combat mission simulator for the AH-6/MH-6 "Littlebird" aircraft. Simulator will be located at the 160th SOAR, Ft. Campbell, KY.



IEW Tactical Proficiency Trainer (IEWTPT)







UNCLASSIFIED
ADVANCED PLANNING BRIEFING FOR INDUSTRY

CONTRACTING OPPORTUNITY (U)

IEW Tactical Proficiency Trainer (IEWTPT)
CONTRACTING OPPORTUNITY

>$15M
ESTIMATED VALUE

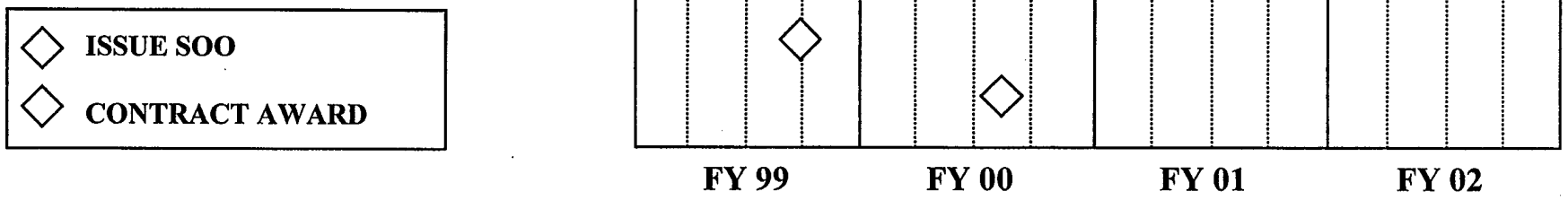
Mr Bruce Metzger (256) 842-8085
CONTRACTS POINT OF CONTACT

Cost Plus Fixed Fee, Follow-on FFP
CONTRACT TYPE

Competitive
KIND OF AWARD

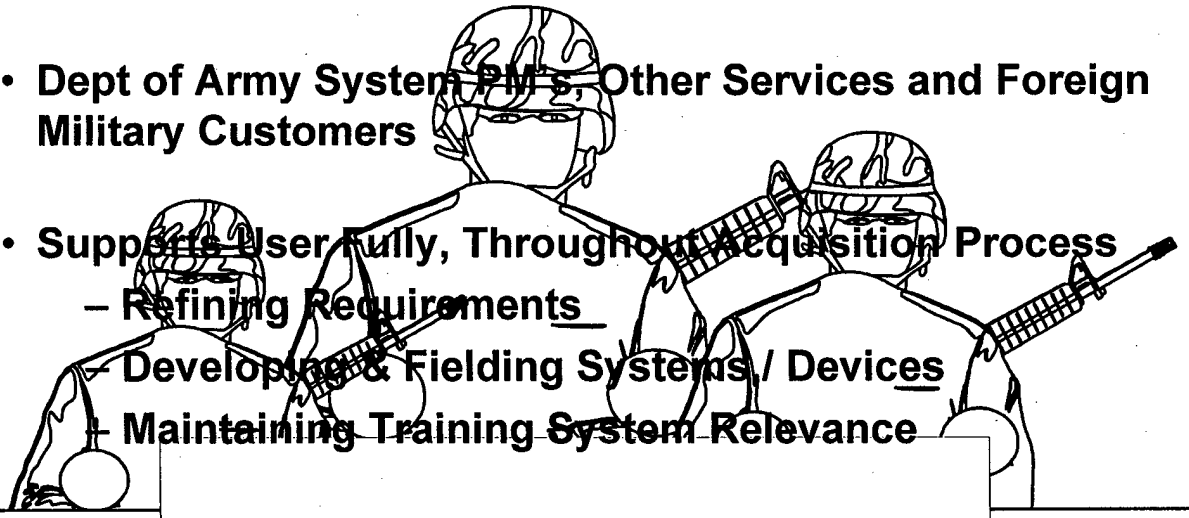
PROGRAM DESCRIPTION:

Develop and field at Ft Huachuca, AZ, a prototype training device that will provide realistic battle command training through an integrated, distributed intelligence information environment to primarily soldier operators who drive the intelligence systems as well as battle commanders and the battle staff.



Summary

- PM TRADE Provides Training Systems in Support of all Training Domains
- Dept of Army System PM's, Other Services and Foreign Military Customers
- Supports User Fully, Throughout Acquisition Process
  - Refining Requirements
  - Developing & Fielding Systems / Devices
  - Maintaining Training System Relevance



"Who Trains, Wins"

ALL BUT WAR IS SIMULATION

PM TRADE

PM CATT

Advanced Planning Briefing for Industry (APBI) 1999

UNCLASSIFIED

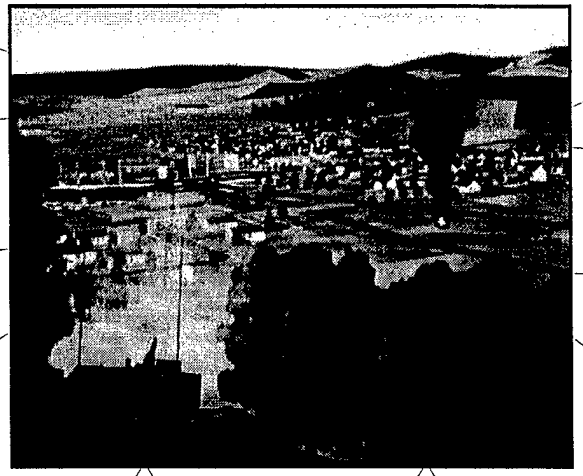
ADVANCED PLANNING BRIEFING FOR INDUSTRY

PM CATT Mission

Develop and Field Networked Simulators for Training Collective Battlefield Tasks

AVCATT

ADCATT

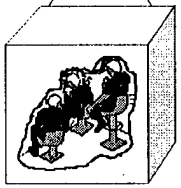


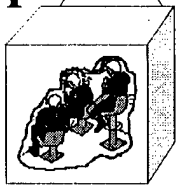
ESCATT

ENCATT

CCTT

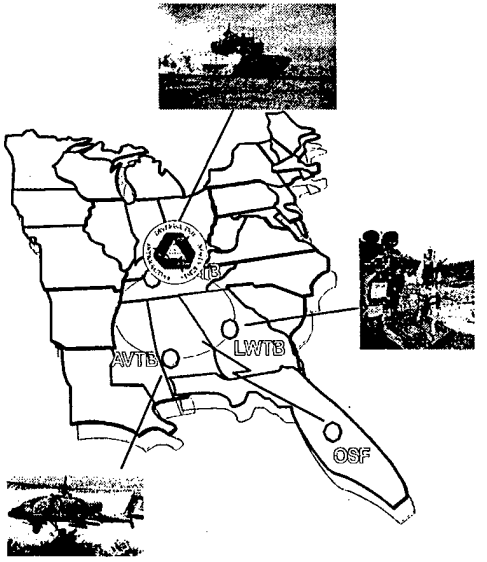
ARMOR





INFANTRY

Develop and Implement Advanced Distributed Simulation Technology (ADST) and Conduct Experiments Networking Live, Virtual, and Constructive Domains

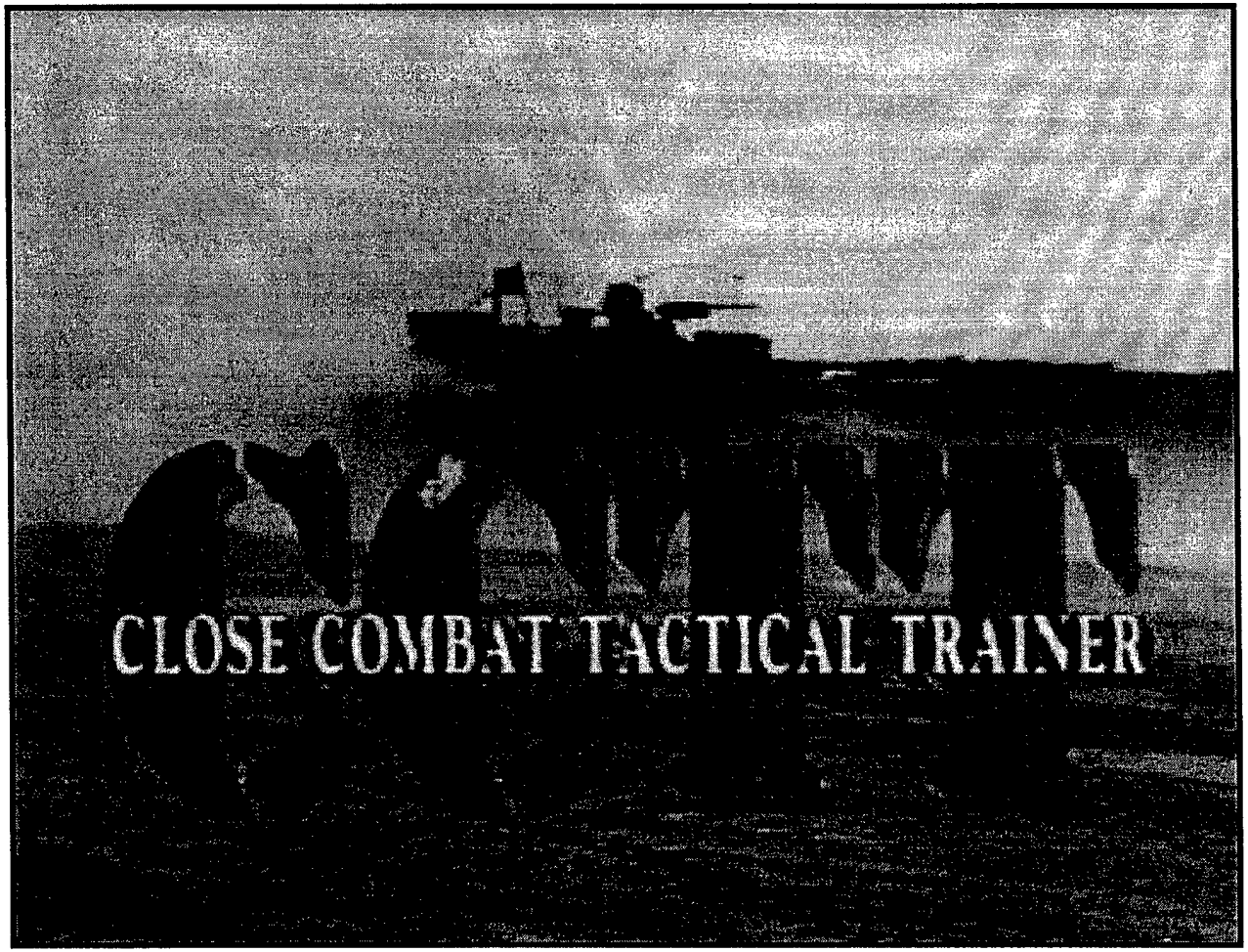


- **CCTT - Support to Production Contract**
- **AVCATT/A - Competitive Solicitation**
- **SE - Core - Common Synthetic Environment Support for Army Programs**

UNCLASSIFIED

ADVANCED PLANNING BRIEFING FOR INDUSTRY

Close Combat Tactical Trainer (CCTT)



UNCLASSIFIED

ADVANCED PLANNING BRIEFING FOR INDUSTRY
Close Combat Tactical Trainer

CCTT IS A NETWORKED SYSTEM OF MANNED SIMULATORS, SUPPORTED BY EMULATORS AND SEMI-AUTOMATED FORCES THAT PROVIDE COMBAT SUPPORT, COMBAT SERVICE SUPPORT, AND BOTH FRIENDLY AND OPPOSING FORCES. CCTT SUPPORTS ACTIVE AND RESERVE COMPONENT COLLECTIVE TASK TRAINING ON A SYNTHETIC COMBINED ARMS BATTLEFIELD.

CCTT SYSTEM CONFIGURATION

MANNED SIMULATORS

M1A1 

M1A2 

M113 

FIST-V 

HMMWV 

M2A2 

DSM'T INF 

AFTER ACTION REVIEW

DATA LOGGER



INITIALIZATION & MAINTENANCE

- MAINTENANCE CONSOLE (MC)
- MASTER CONTROL CONSOLE (MCC)

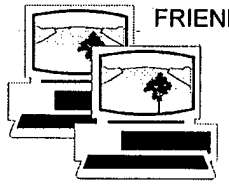
TACTICAL WORKSTATIONS

- MOTAR FIRE DIRECTION CENTER
- UNIT MAINTENANCE COMMAND POST
- COMBAT TRAIN (LOG) COMMAND POST
- TACTICAL AIR COMMAND POST
- FIELD ARTILLERY BN TOC
- COMBAT ENGINEER SUPPORT
- BRIGADE HQ
- BATTALION TF TOC

SEMI-AUTOMATED FORCES (SAF)

ENEMY

FRIENDLY



Close Combat Tactical Trainer

Milestone Decision Authority (ACAT II)
Army Acquisition Executive (AAE)

PROGRAM MILESTONES

ORD (TDR) - Jun 91
MS I/II - Oct 91
(Included QUICKSTART - Early Production Fielding)
MS III - 1QFY99

CONTRACT

EMD Contract Award - Nov 92
QUICKSTART Award - Oct 94
Production Options
Prime: Lockheed Martin Information Systems (LMIS)

PLAYERS

TSM
PM CATT
TECOM
OPTEC / TEXCOM
AMSAA
LMIS

PROGRAM STATUS

* SW Design Complete and HW Baselined
* QUICKSTART Fielding Last Site - May 98
* Final LRIP Fielding in Process
* Full Rate Production FY99 Option Awarded

UNCLASSIFIED

ADVANCED PLANNING BRIEFING FOR INDUSTRY

Contracting Opportunity (U)

CCTT Full Rate Production - Sub Contracts
Contracting Opportunity

Mr. Doug Greenwood (380-4568)
Contracts Point of Contact

Total FRP: > $200M
Estimated Value

Fixed Price
Contract Type

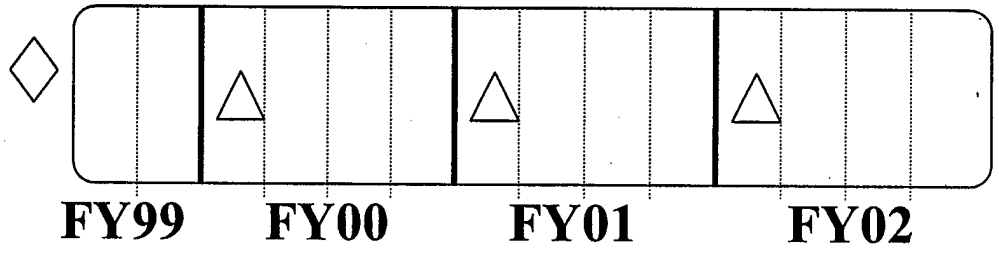
Production Option Under Existing Contract With LMIS
Kind of Award

Program Description

CCTT will begin Full Rate Production In FY99. Lockheed Martin is the Prime Contractor and Production is planned under existing Options/Lots. This effort is identified for those companies that may be interested in Sub-Contract arrangements on CCTT. Interested companies should contact Lockheed Martin directly.

◇ **Existing Contract**

△ **Option Award**

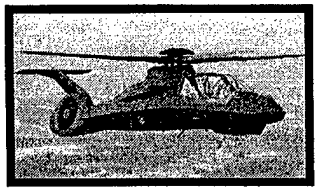


UNCLASSIFIED

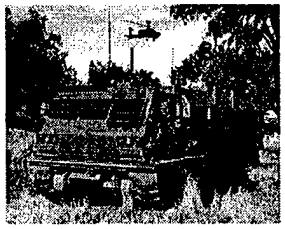
ADVANCED PLANNING BRIEFING FOR INDUSTRY

AVCATT - ARMS Total Army Aviation Requirements

Active Component Unique Requirements



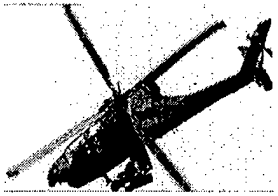
RAH-66*



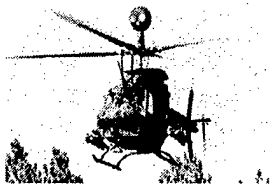
Digitized TOC

*Currently an option in the AVCATT-A Request for Proposal (RFP)

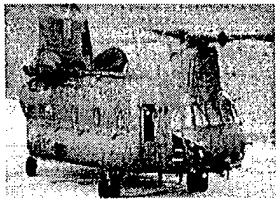
Common Requirements



AH-64A



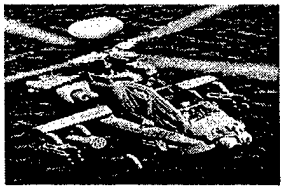
OH-58D (KW)



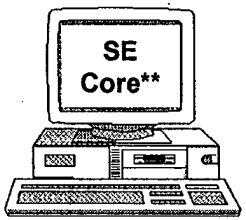
CH-47D



UH-60L

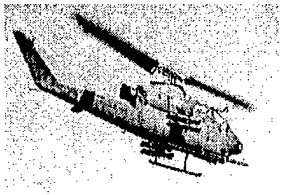


AH-64D

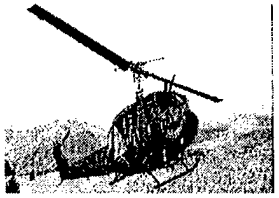


- **Virtual Manned Simulators**
- **Networked/HLA Compliant**
- **CCTT Interoperable**
- **Fully Mobile**
- **Reconfigurable**

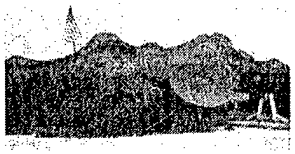
Reserve Component Unique Requirements



AH-1F



UH-1H



Conventional TOC

**SE CORE: AAR & 2-SAF Workstations, appropriate Terrain Databases, & Training Support Packages.

UNCLASSIFIED

ADVANCED PLANNING BRIEFING FOR INDUSTRY

Contracting Opportunity (U)

Aviation CATT/Arms (AVCATT-A)
Contracting Opportunity

> $150M
Estimated Value

Ms. Denise Manross (380-4350)
Contracts Point of Contact

Fixed Price/Cost Reimbursable
Contract Type

Competitive
Kind of Award

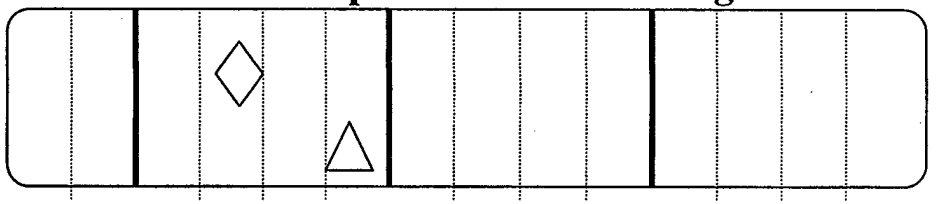
Program Description

AVCATT/A is a combined Development and Production Program Acquisition To Meet the Aviation Collective Training Needs for the Total Army (Active and National Guard/Reserve). It will consist of manned simulators and the supporting synthetic environment based on the Synthetic Environment - Core (SE Core).

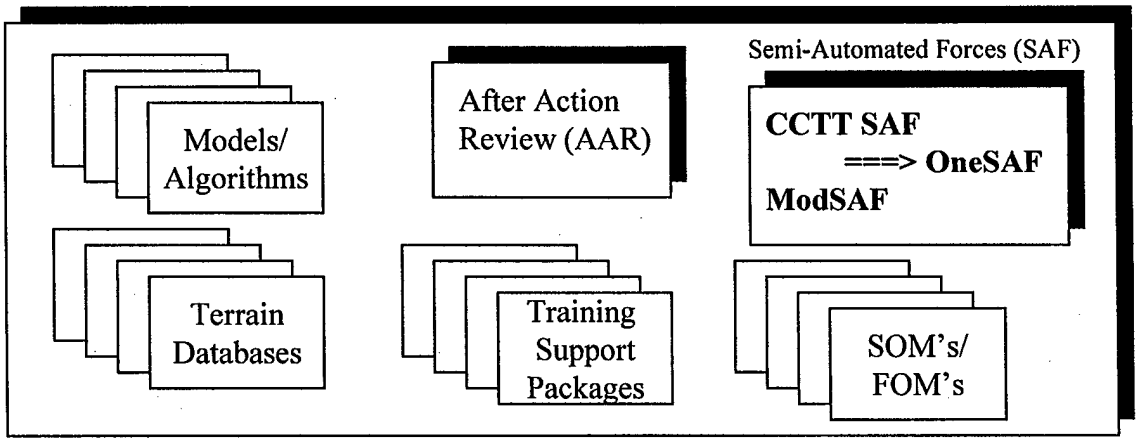
◇ **Issue RFP**

△ **Contract Award**

*** RFP Release Dependent On Funding Availability**



Synthetic Environment (SE) - Core



- **Software/Model/Algorithm/Data Reuse**
- **Common Expanding Infrastructure**
- **Validated Models and Algorithms**
- **Shared Federation Object Model(s)**

- **Reduced Development and Support Costs**
- **Improved Interoperability**
- **Shortened Development Cycle**

Solicitations Will:

- **Encourage Use/Reuse**
- **Require Consideration In Proposals (Best Value)**
- **Obtain Minimum of Government Rights**
- **Provide Expanding Capabilities to Future Bidders**

UNCLASSIFIED

ADVANCED PLANNING BRIEFING FOR INDUSTRY

Contracting Opportunity (U)

Synthetic Environment - Core
Contracting Opportunity

Mr. Doug Greenwood (380-4568)
Contracts Point of Contact

Based on Individual Enhancement
Estimated Value

TBD
Contract Type

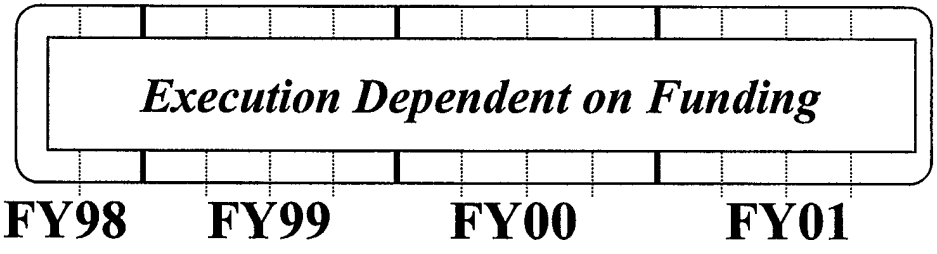
Various
Kind of Award

Program Description

SE Core will provide an expanding simulation infrastructure to support Army simulation initiatives. Training, Exercise, and Military Operations (TEMO) focus of SE Core will be to support the fielding of Aviation, Air Defense, Engineer, and Fire Support, Collective Training capabilities. Acquisitions programs may be a combination of STRICOM (e.g. AVCATT-A) efforts and/or System PEO/PM efforts.

◇ **Issue RFP**

△ **Contract Award**



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ADVANCED PLANNING BRIEFING FOR INDUSTRY

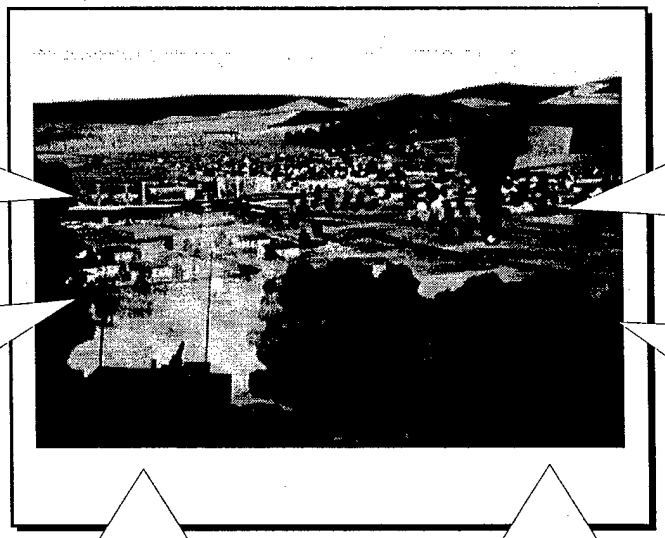
CATT - Bridging the Gap Between System and Non-System

AVCATT-A

MOA - PEO-AV

AVCATT

ADCATT



ESCATT

ENCATT

ARMOR

Applique/ FBCB2

M!A2 SEP (PM Abrams)

ACSL

INFANTRY

Grizzly

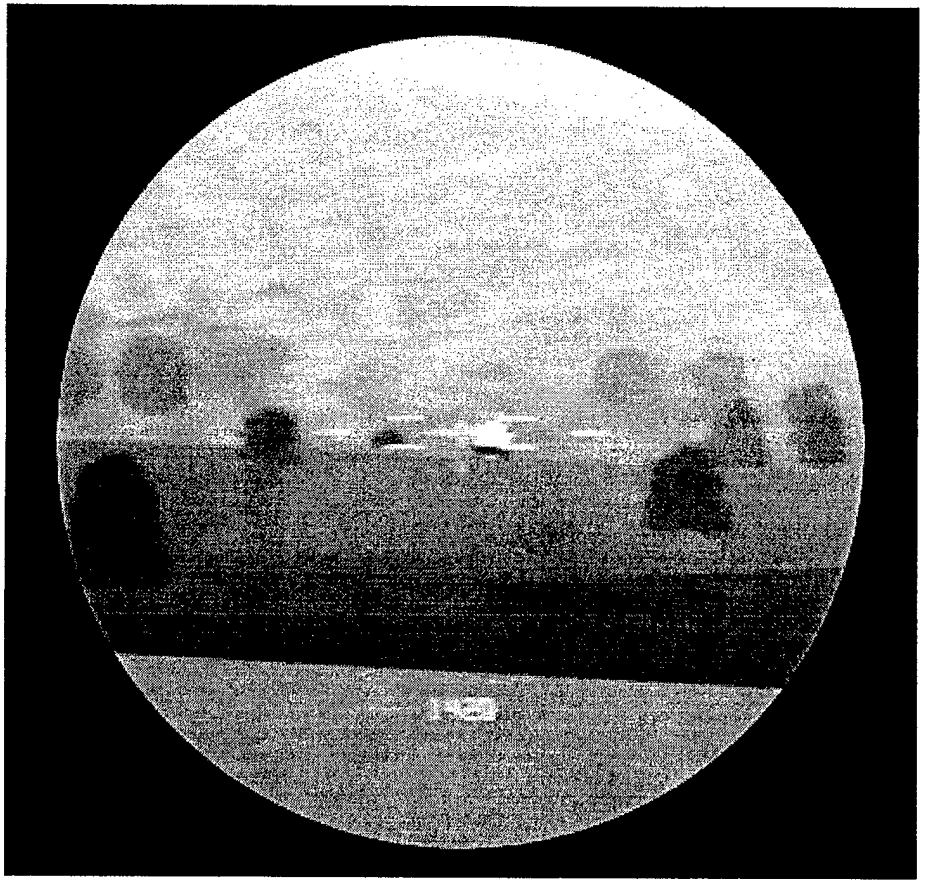
Wolverine

M2A3 (PM Bradley) - UDLP (BATS)

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ADVANCED PLANNING BRIEFING FOR INDUSTRY

CATT...



"In no other profession are the penalties for employing untrained personnel so appalling or so irrevocable as in the military."

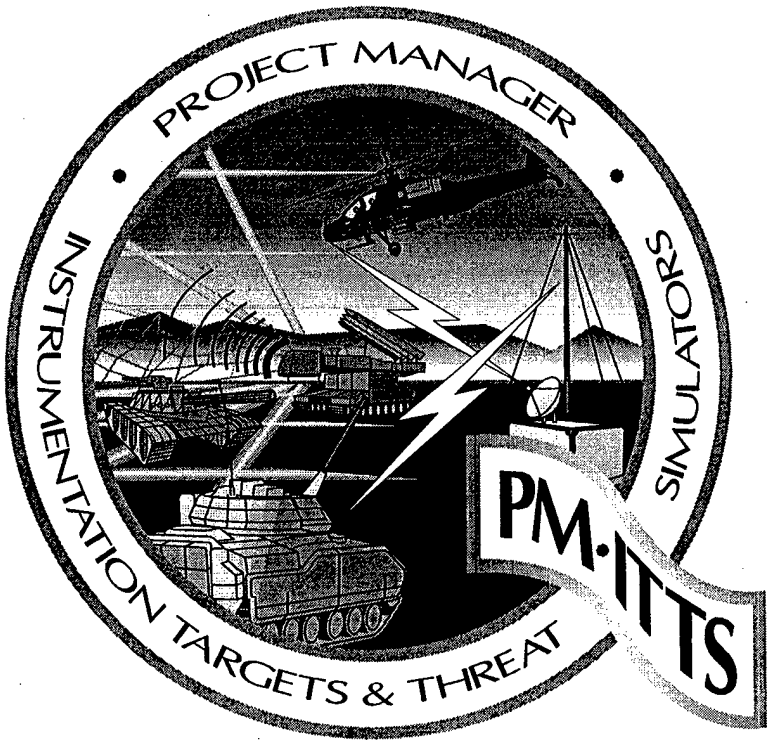
GEN Douglas MacArthur

...21st Century Training Today!!!

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ADVANCED PLANNING BRIEFING FOR INDUSTRY

PM ITTS

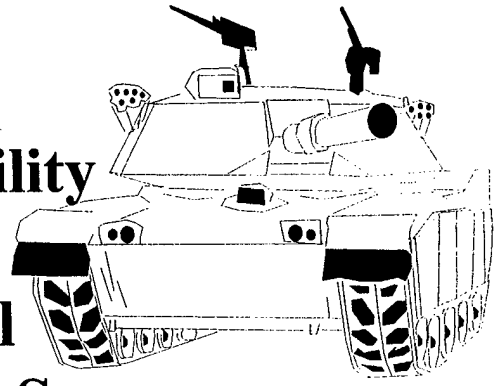


Advanced Planning Briefing for Industry (APBI) 1999

COL Mark W. Russell

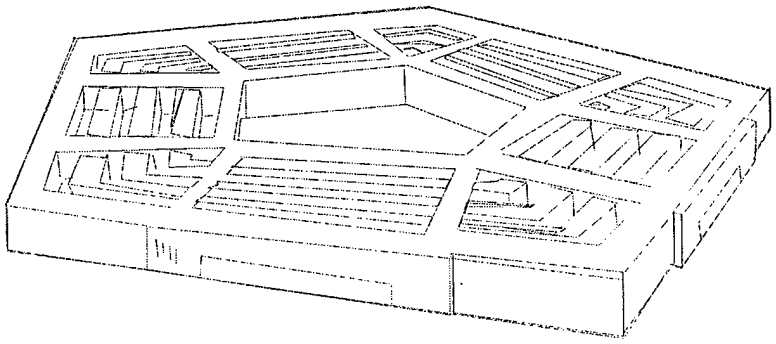
MISSION

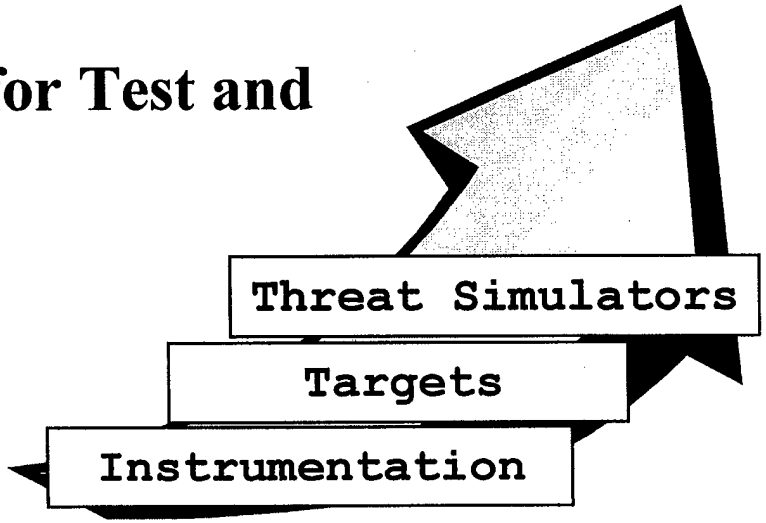
- **Manage the Research, Development, Design, Acquisition, Fielding, Modification and Capability Accounting of Targets, Threat Simulators and Major Instrumentation Required for Technical and Operational Test and Evaluation for the U.S. Army.**



U.S. ARMY T&E

- **Operate and Maintain Targets for Test and Training.**





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ADVANCED PLANNING BRIEFING FOR INDUSTRY

PM ITTS

COL Mark W. Russell
Project Manager for Instrumentation, Targets, and Threat Simulators
ATTN: AMSTI-ITTS
12350 Research Parkway, Orlando, FL 32826-3276
(407) 384-5250 DSN 970-5250
email: Mark_Russell@stricom.army.mil

DPM: Mr. Jerry Sirmans
(407) 384-5251 DSN 970-5251
email: Jerry_Sirmans@stricom.army.mil

IMO

Mr. J. Russell Longenbach
Instrumentation Mgmt Office
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Orlando, FL 32826-3276
(407) 384-5230 / DSN 970-5230
e-mail:
J._Russ_Longenbach@stricom.army.mil

TMO

Mr. Heber R. Norckauer, Jr.
Targets Mgmt Office
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(256) 876-4077/7764
DSN 746-4077/7764
e-mail:
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TSMO

Mr. Mark C. Tutten
Threat Simulator Mgmt Office
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(256) 876-9656 x200
DSN 746-9656 x200
email:
Mark_Tutten@stricom.army.mil

Visit our Website at http://www.stricom.army.mil

CONTRACTS

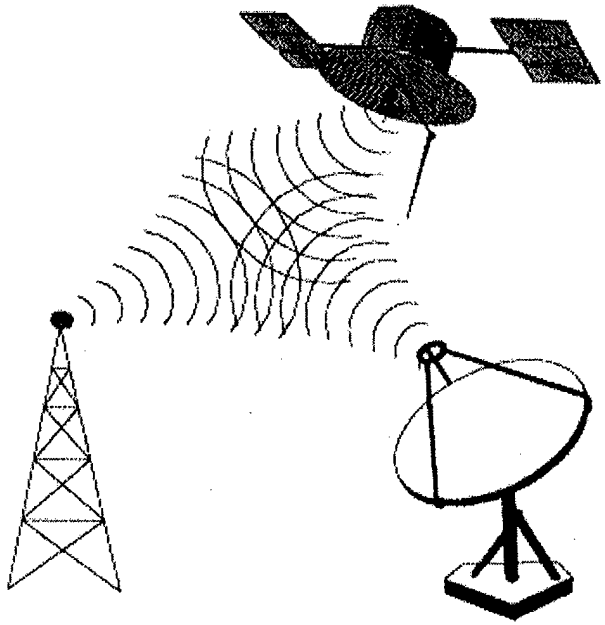
- **PM ITTS contracts through several procurement agencies**
  - **STRICOM/NAWC - Instrumentation**
  - **AMCOM - Targets and Threat Simulators**
  - **TECOM Test Centers - Range facilities and Instrumentation**

MAJOR TECHNOLOGY THRUSTS

- Cognitive Reasoning
- Micro-Miniaturization
- Neural Networks
- Threat Engagement / Sensor Fusion
- Smart and Top Attack Munitions
- Frequency Saturation

Instrumentation Management Office

- **Develops Major Instrumentation**
- **Instrumentation Characteristics**
  - **Direct and Remote Sensing**
  - **Detect, Measure, Record, Telemeter, Process and Analyze**
  - **Used for Technical or Operational Testing**



UNCLASSIFIED
ADVANCED PLANNING BRIEFING FOR INDUSTRY

CONTRACTING OPPORTUNITY (U)

High Speed Massive Memory/Electronic Film Capability (HSMM/EFC)

CONTRACTING OPPORTUNITY

$5.0M - $10.0M

ESTIMATED VALUE

DURATION YRS: 6 MOS: --

SM BUSINESS SET ASIDE: N

TBD

CONTRACTS POINT OF CONTACT

Negotiated Best Value

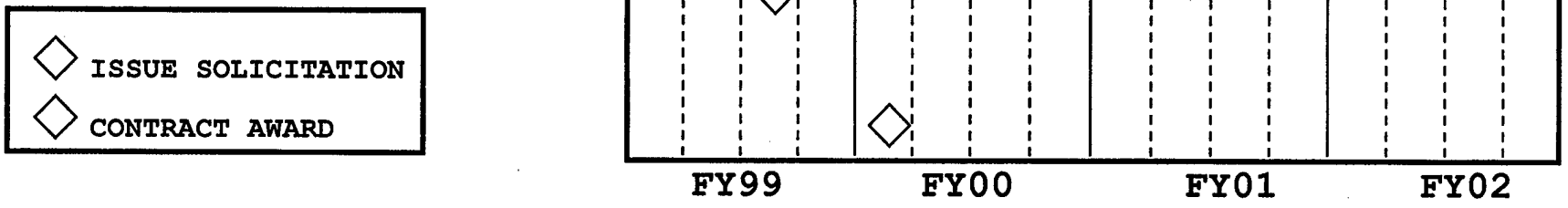
CONTRACT TYPE

Competitive

KIND OF AWARD

PROGRAM DESCRIPTION:

Develop and deliver stand-alone high density, high frame rate IR and VIS focal plane staring arrays based on Smart Munition Test Suite (SMTS) test prototypes. Includes massive memory devices (20 GB Dynamic RAM with 800 MB/sec data rates). Includes an automated data reduction station for processing digital image data files for multi-service use.



CONTRACTING OPPORTUNITY (U)

Foundation Initiative 2010 (FI2010)
CONTRACTING OPPORTUNITY

TBD
CONTRACTS POINT OF CONTACT

<$5.0M
ESTIMATED VALUE

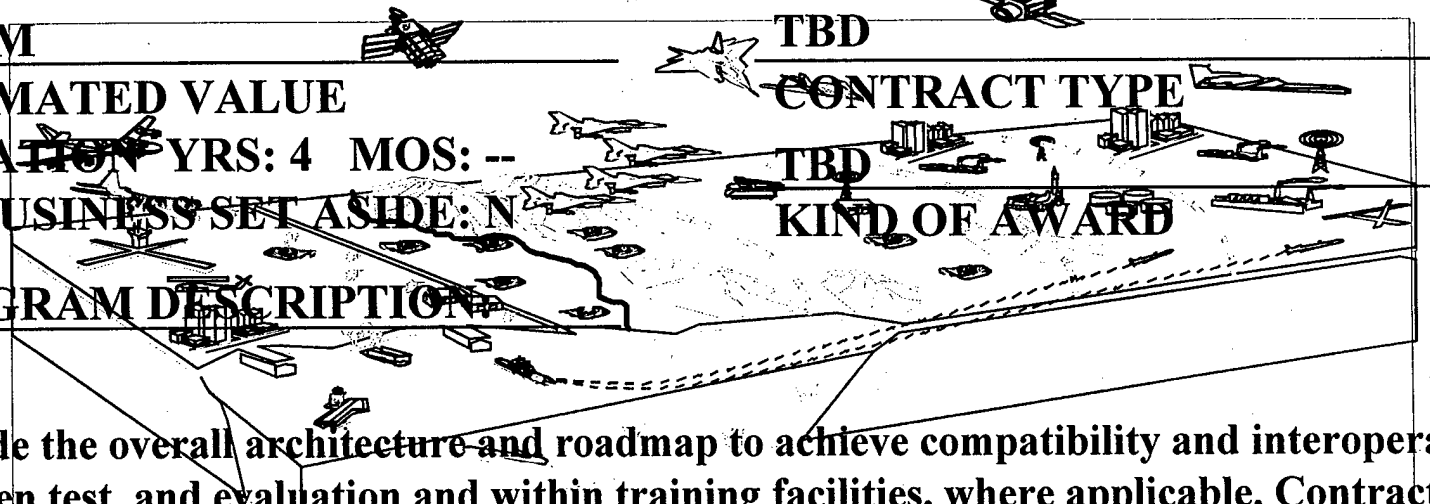
TBD
CONTRACT TYPE

DURATION YRS: 4 MOS: --

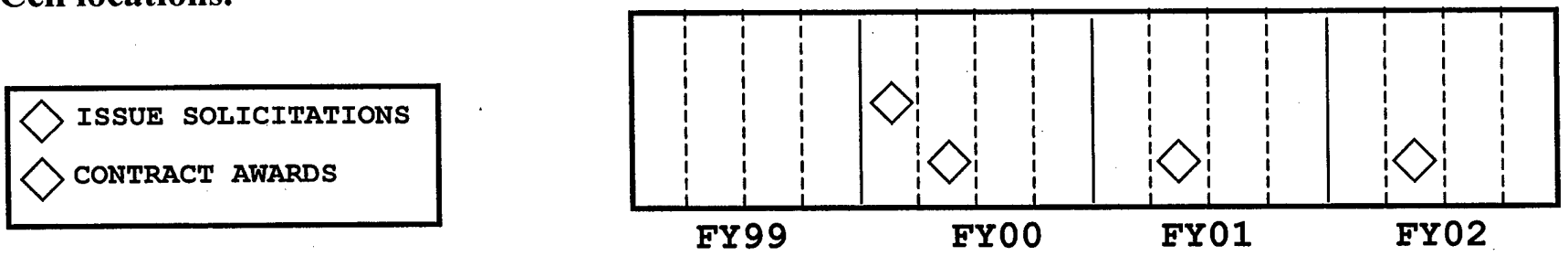
TBD
KIND OF AWARD

SM BUSINESS SET ASIDE: N

PROGRAM DESCRIPTION:



Provide the overall architecture and roadmap to achieve compatibility and interoperability between test and evaluation and within training facilities, where applicable. Contracting opportunities in FY00 will be limited to test support activities at various Development Test Cell locations.



UNCLASSIFIED
ADVANCED PLANNING BRIEFING FOR INDUSTRY

CONTRACTING OPPORTUNITY (U)

Advanced Multiple Object Acquisition System (AMOAS)
CONTRACTING OPPORTUNITY

$5.0 - 20.0M
ESTIMATED VALUE

DURATION YRS: 2 MOS: 6
SM BUSINESS SET ASIDE: N

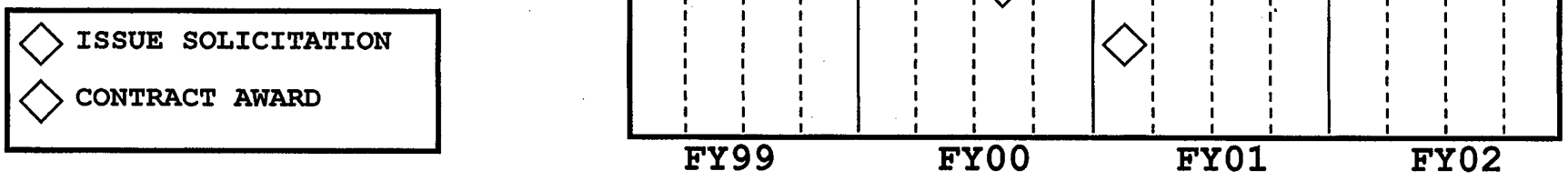
TBD
CONTRACTS POINT OF CONTACT

Negotiated Best Value
CONTRACT TYPE

Competitive
KIND OF AWARD

PROGRAM DESCRIPTION:

Develop and deliver a very wide field of view, high resolution, multiple-object tracking instrumentation system with global shared-memory data base manager for the command and control of AMOAS for multi-service use. Includes very high speed control and data transfer links.



UNCLASSIFIED
ADVANCED PLANNING BRIEFING FOR INDUSTRY

CONTRACTING OPPORTUNITY (U)

Hardened Subminiature Telemetry & Sensor System (HSTSS)

Ms. Cathy Derosiers

CONTRACTING OPPORTUNITY

CONTRACTS POINT OF CONTACT

>$5.0M - $20.0M

Negotiated Best Value

ESTIMATED VALUE

CONTRACT TYPE

DURATION YRS: ~2 MOS: --

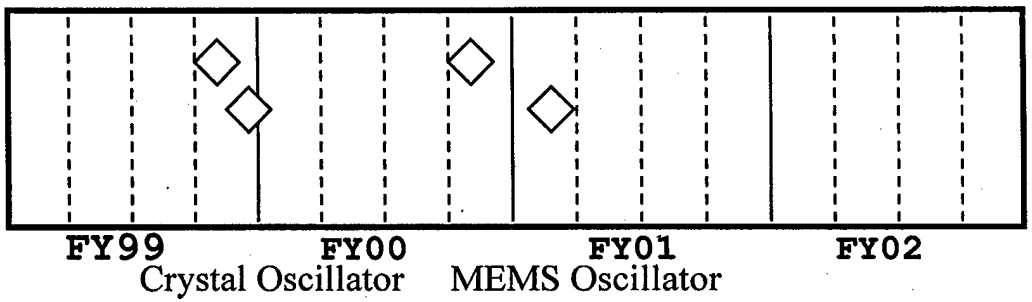
Competitive

SM BUSINESS SET ASIDE: N

KIND OF AWARD

PROGRAM DESCRIPTION:

Develop and deliver instrumentation that will be on board indirect fire projectiles, small missile, medium caliber munitions and direct fire projectiles. The instrumentation will be made up of Building Blocks to include transmitter, encoder, power source, signal conditioning and a variety of sensors. The design must have the ability to survive in a high-g environment and be packaged in less than one cubic inch. The instrumentation must be adaptable, interchangeable, expandable, and low cost. Will be accomplished through multiple-contract awards.



UNCLASSIFIED
ADVANCED PLANNING BRIEFING FOR INDUSTRY

CONTRACTING OPPORTUNITY (U)

Mobile Infrared Scene Projector (MIRSP)
CONTRACTING OPPORTUNITY

$5.0-7.0M
ESTIMATED VALUE
DURATION YRS: 3-4 MOS: -
SM BUSINESS SET-ASIDE: N

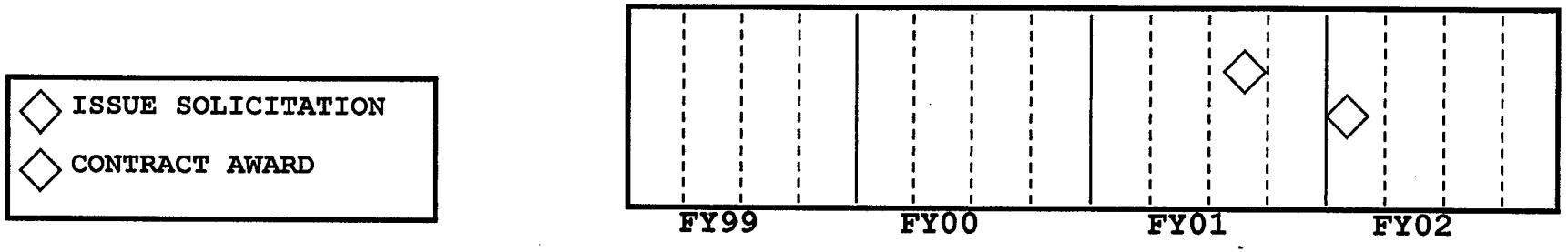
Ray Fegal
CONTRACTS POINT OF CONTACT

TBD
CONTRACT TYPE
Competitive
KIND OF AWARD



PROGRAM DESCRIPTION:

MIRSP will provide for a transportable/mobile capability for test and evaluation of second generation FLIR target acquisition sensors, imaging infrared sensors & other Electro-optical Sensors for ground and aircraft platforms. MIRSP will also provide the capability for use as a sensor integration tool during system development. The MIRSP will project accurate, dynamic, and realistic in-band infrared scene imagery to the unit-under-test (UUT).



UNCLASSIFIED
ADVANCED PLANNING BRIEFING FOR INDUSTRY

CONTRACTING OPPORTUNITY (U)

Roadway Simulator

CONTRACTING OPPORTUNITY

TBD

CONTRACTS POINT OF CONTACT

$36.0M

ESTIMATED VALUE

TBD

CONTRACT TYPE

DURATION YRS: 4 MOS: 3

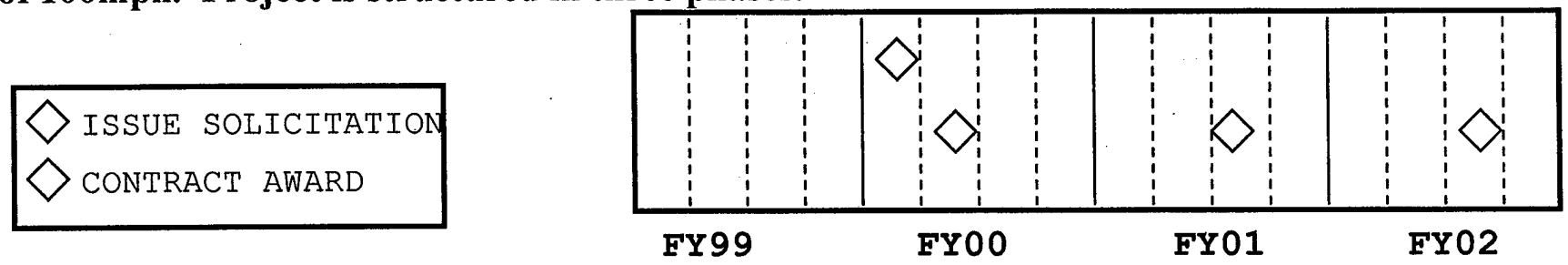
SM BUSINESS SET ASIDE: N

TBD

KIND OF AWARD

PROGRAM DESCRIPTION:

Roadway Simulator (RWS) project is a commercial automotive "Hardware-in-the-loop" simulator used to test the safety and performance of wheeled vehicles in a laboratory environment, comprehensive of engineering, test safety, data quality and test cost concerns. The project is needed to safely, accurately, and completely test land vehicles being developed to meet Army, Marine Corps, and SOCOM requirements for advance-mobility at speeds in excess of 100mph. Project is structured in three phases.



UNCLASSIFIED
ADVANCED PLANNING BRIEFING FOR INDUSTRY

CONTRACTING OPPORTUNITY (U)

Lightweight Personnel Detection Device (LPDD)
CONTRACTING OPPORTUNITY

<$5.0M
ESTIMATED VALUE
DURATION YRS: 2 MOS:
SM BUSINESS SET ASIDE: N

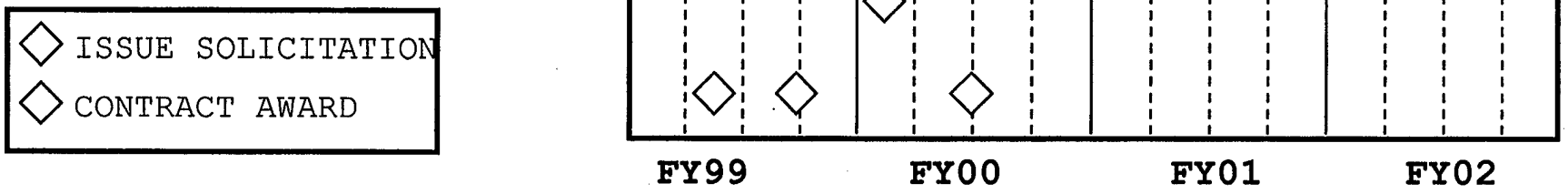
Barbara Ladd
CONTRACTS POINT OF CONTACT

TBD
CONTRACT TYPE

TBD
KIND OF AWARD

PROGRAM DESCRIPTION:

LPDD will develop prototype dismounted soldier systems for use at the Joint Readiness Training Center (JRTC). Systems will be integrated with Land Warrior and CIDDS, and tested at the Joint Contingency Force Advanced Warfighting Experiment at JRTC in Sep 2000.



UNCLASSIFIED
ADVANCED PLANNING BRIEFING FOR INDUSTRY

CONTRACTING OPPORTUNITY (U)

Flexible Interoperative Transceivers
CONTRACTING OPPORTUNITY

<$5.0M
ESTIMATED VALUE
DURATION YRS: 3+ MOS:
SM BUSINESS SET ASIDE: N

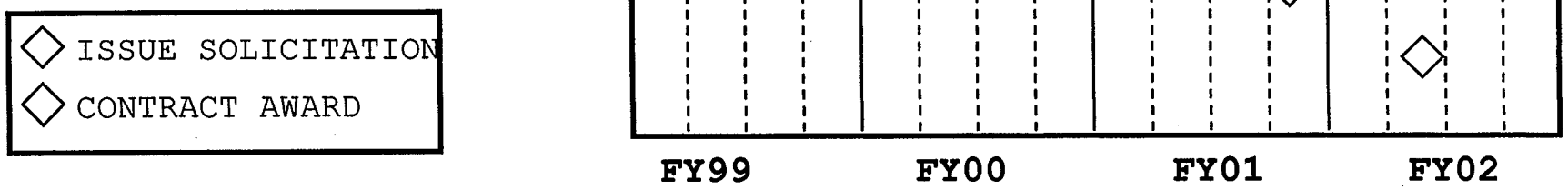
TBD
CONTRACTS POINT OF CONTACT

TBD
CONTRACT TYPE

TBD
KIND OF AWARD

PROGRAM DESCRIPTION:

The Flexible Interoperable Transceivers (FIT) project is developing a Joint Datalink Standard that defines the protocols for transmitting digital data via radio networks that can be used in a wide variety of military test and training applications. The transceivers procured using the FIT Standard (a potential for over 20,000 transceivers in FY02-05) will be highly tailorable in both hardware and software to optimize each application, provide the latest technology for spectrum efficiency and assures interoperability at and between ranges.



UNCLASSIFIED
ADVANCED PLANNING BRIEFING FOR INDUSTRY

CONTRACTING OPPORTUNITY (U)

Land and Sea Vulnerability Test Complex
CONTRACTING OPPORTUNITY

$25-26.0M
ESTIMATED VALUE
DURATION YRS: 4 MOS: --
SM BUSINESS SET ASIDE: N

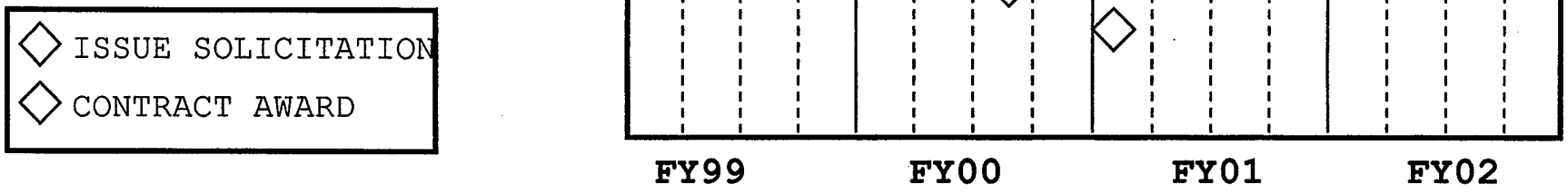
TBD
CONTRACTS POINT OF CONTACT

TBD
CONTRACT TYPE

TBD
KIND OF AWARD

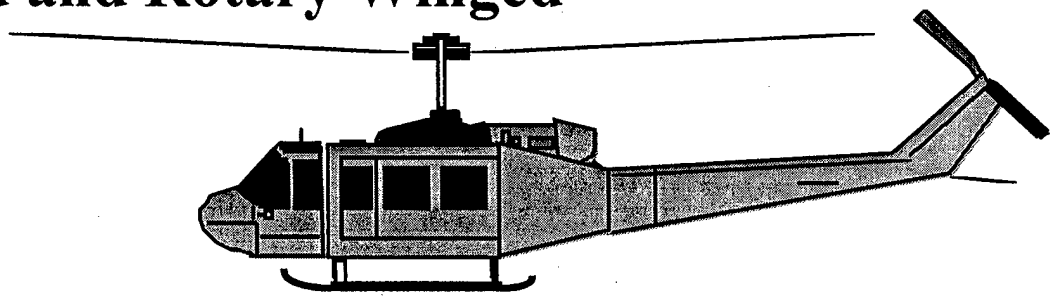
PROGRAM DESCRIPTION:

This expansion of ATC's test capability will include: a) Network to integrate all existing land and sea vulnerability ranges; b) Centralized digital data acquisition; c) Simulate any amphibious and beach landing operation; d) Integrate Test & Training in both littoral and battlefield environment; e) State-of-the-art ballistic data acquisition instrumentation; f) Characterize UNDEX shock to assess Mine/Countermine performance; g) Measure acoustic target strengths of mines containing explosives; and h) Underwater missile/torpedo launches.



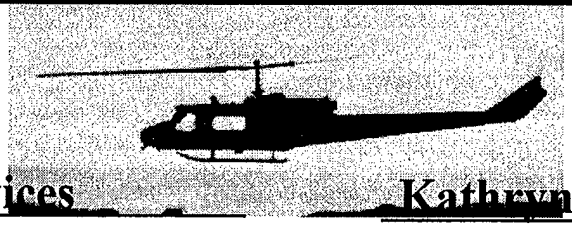
Targets Management Office

- **Develops, Fields, Operates, and Supports Ground and Airborne Target Vehicles**
- **Target Characteristics:**
  - **Supports Testing and Training**
  - **Economical and Expendable**
  - **Remotely Controlled or Stationary**
  - **Often Destroyed in Use**
- **DOD Lead for Ground and Rotary Winged Targets**



UNCLASSIFIED
ADVANCED PLANNING BRIEFING FOR INDUSTRY

CONTRACTING OPPORTUNITY (U)



Aerial Target Flight Services
CONTRACTING OPPORTUNITY

Kathryn Engle (256) 842-0381
CONTRACTS POINT OF CONTACT

$20.0M
ESTIMATED VALUE

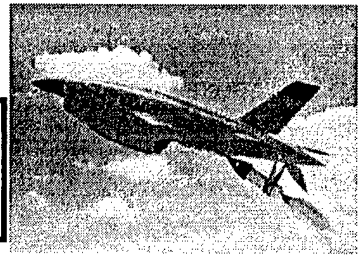
FFP
CONTRACT TYPE

5 Years (includes Basic Plus Options)
DURATION

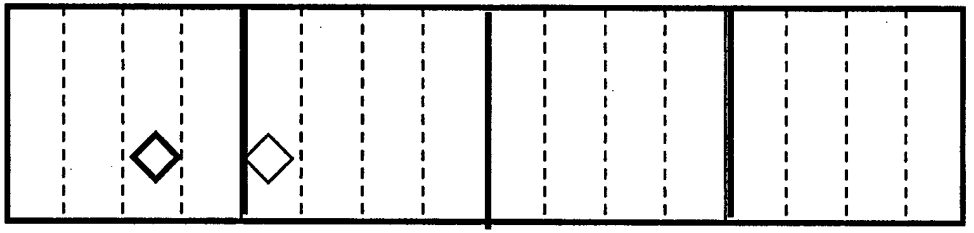
Competitive
KIND OF AWARD

PROGRAM DESCRIPTION:

Operations and maintenance contract for MQM-107/BQM-34 subscale fixed wing targets, QH-50 subscale helicopter targets, UH-1/QUH-1 and AH-1/QAH-1/HOKUM-X full scale rotary wing targets, BATS and LANCE target missile systems, and other Supplementary target systems. Targets are flown at numerous CONUS/OCONUS ranges to support ADA training, RDT&E for the Tri-Services, and Foreign Military Sales requirements.



◇ ISSUE SOLICITATION
◇ CONTRACT AWARD



UNCLASSIFIED
ADVANCED PLANNING BRIEFING FOR INDUSTRY

CONTRACTING OPPORTUNITY (U)

MQM-107 Engineering Services
CONTRACTING OPPORTUNITY

< $5.0M
ESTIMATED VALUE

5 Years (Includes Basic Plus Options)
DURATION

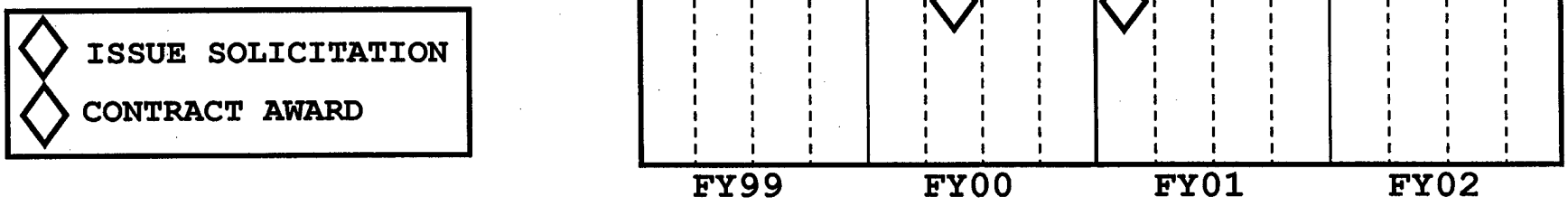
Kathryn Engle (256) 842-0381
CONTRACTS POINT OF CONTACT

CPFF
CONTRACT TYPE

Competitive
KIND OF AWARD

PROGRAM DESCRIPTION:

Engineering Services in support of the MQM-107 target system. The effort will consist of research and development for MQM-107 system hardware changes, including applied research, design, analysis, prototype development, proof of principle testing and data evaluation, technical assistance and flight support of production flight missions, and product evaluation including wind tunnel, environmental and production testing.



UNCLASSIFIED
ADVANCED PLANNING BRIEFING FOR INDUSTRY

CONTRACTING OPPORTUNITY (U)

New Generation Army Targetry System (NGATS) - Phase II

CONTRACTING OPPORTUNITY

Kathryn Engle (256) 842-0381

CONTRACTS POINT OF CONTACT

< 4.0M

ESTIMATED VALUE

FFP

CONTRACT TYPE

5 Years (Includes Basic Plus Options)

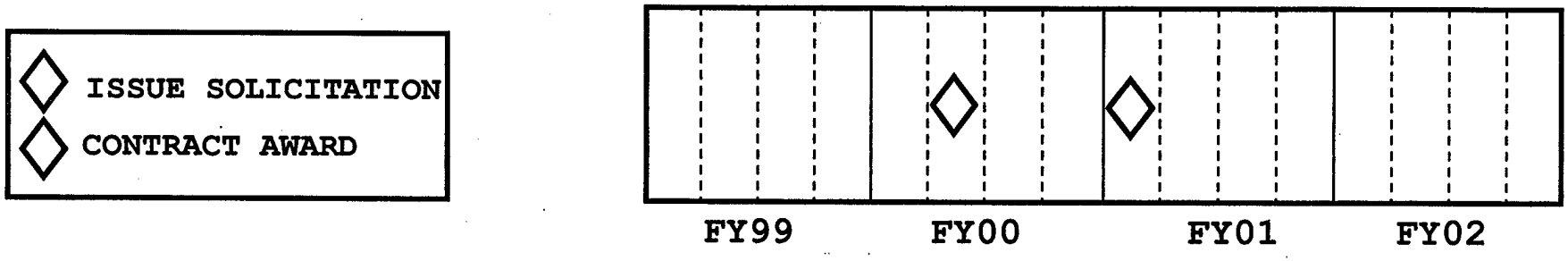
DURATION

Competitive

KIND OF AWARD

PROGRAM DESCRIPTION:

Develop a new generation of targetry to support current/future combined arms weapons systems (extended ranges, smart weapons, scenarios) and Army battle initiatives. Targetry must be mobile/transportable/deployable worldwide, be compatible with the STOW environment, replicate battle audio/visual stimuli (signatures), support live/dry fire scenarios and operate in real, constructive and virtual environments.



UNCLASSIFIED
ADVANCED PLANNING BRIEFING FOR INDUSTRY

CONTRACTING OPPORTUNITY (U)

HOKUM-X
CONTRACTING OPPORTUNITY

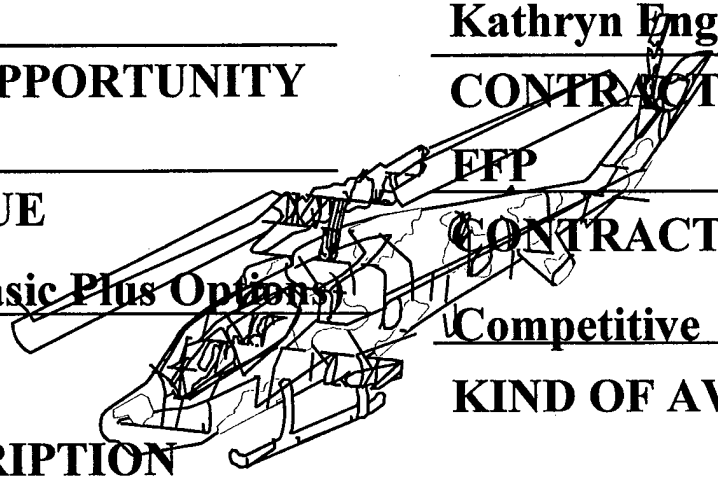
< $10.0M
ESTIMATED VALUE

5 Years (Includes Basic Plus Options)
DURATION

Kathryn Engle (256) 842-0381
CONTRACTS POINT OF CONTACT

FFP
CONTRACT TYPE

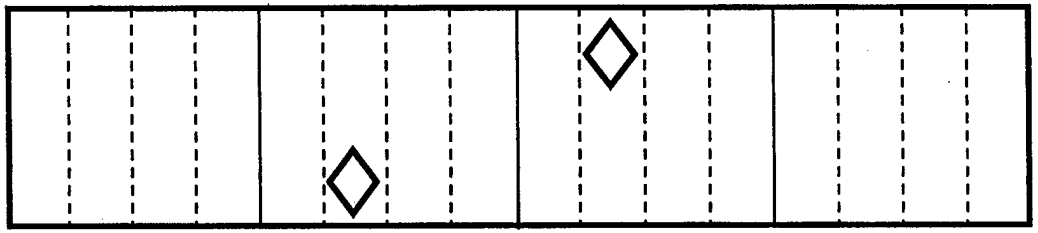
Competitive
KIND OF AWARD



PROGRAM DESCRIPTION

Production of a full scale aerial target which emulates the Russian Ka-50 helicopter, and can be configured to provide multiple RF and IR signatures. It will support major weapon system test and evaluation.

◇ ISSUE SOLICITATION
◇ CONTRACT AWARD



UNCLASSIFIED
ADVANCED PLANNING BRIEFING FOR INDUSTRY

CONTRACTING OPPORTUNITY (U)

1/5 Scale Hardware and Flight Services

CONTRACTING OPPORTUNITY

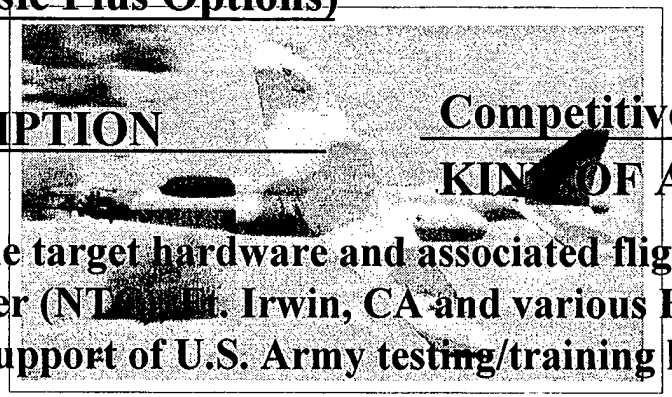
< $21.0M

ESTIMATED VALUE

5 Years (Includes Basic Plus Options)

DURATION





Kathryn Engle (256) 842-0381

CONTRACTS POINT OF CONTACT

FFP (Hardware) / FFP (NTC Services)

FFP / Cost (Homestation Support)

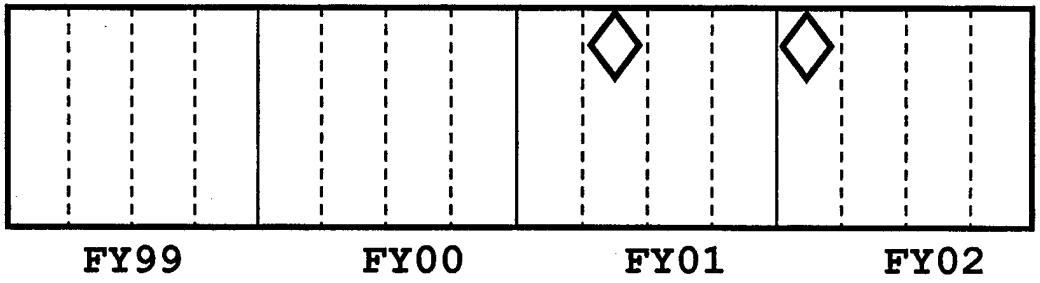
CONTRACT TYPE

Competitive

KIND OF AWARD

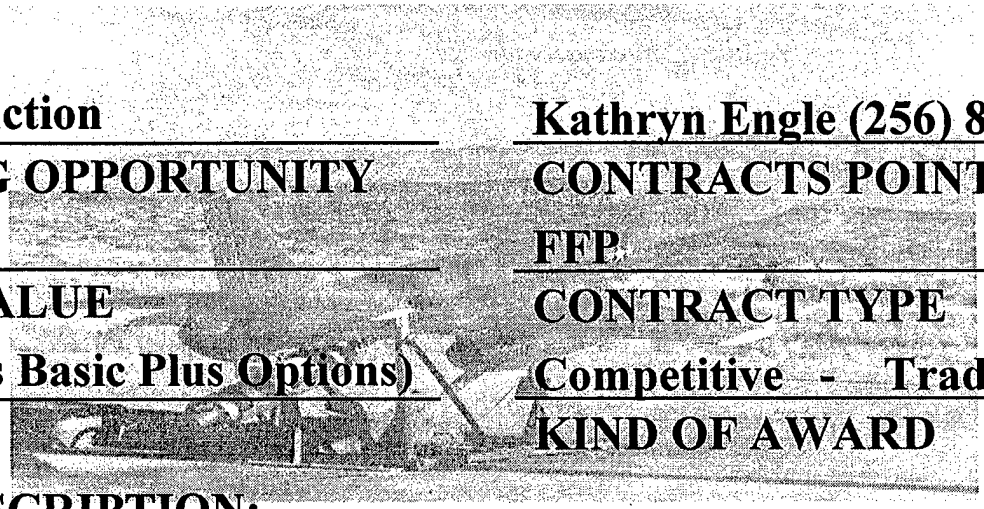
PROGRAM DESCRIPTION

Manufacture of 1/5 Scale target hardware and associated flight service support at the National Training Center (NTC), Ft. Irwin, CA and various Homestation CONUS/ OCONUS locations in support of U.S. Army testing/training live fire and simulation events.



UNCLASSIFIED
ADVANCED PLANNING BRIEFING FOR INDUSTRY

CONTRACTING OPPORTUNITY (U)



MQM-107 Production
CONTRACTING OPPORTUNITY

Kathryn Engle (256) 842-0381
CONTRACTS POINT OF CONTACT

< $30.0M
ESTIMATED VALUE

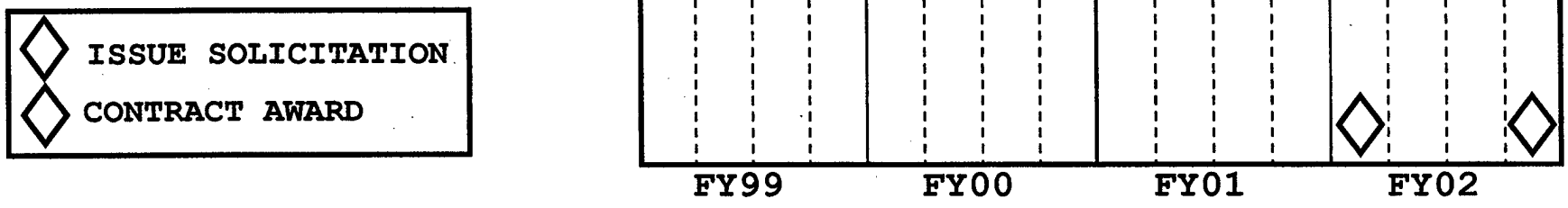
FFP
CONTRACT TYPE

5 Years (Includes Basic Plus Options)
DURATION

Competitive - Trade-Off Process
KIND OF AWARD

PROGRAM DESCRIPTION:

Follow-On to the MQM-107E. Manufacture of MQM-107 targets utilizing a performance specification. Commercial Off-the-Shelf (COTS) solution meeting stated interoperability requirements with regard to existing support equipment. Separate contracts for engines, target group sets and recovery systems may be awarded.

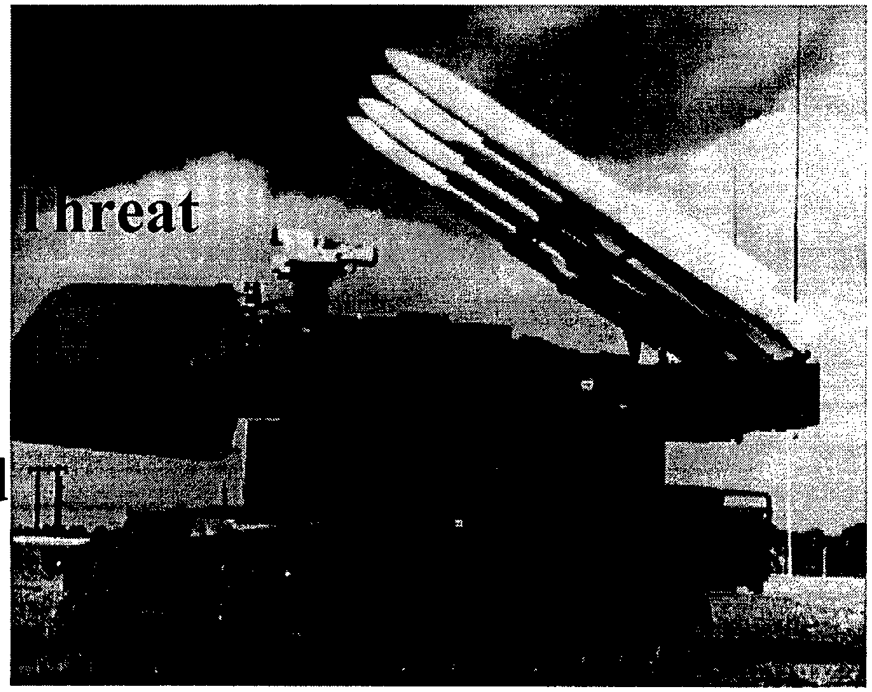


UNCLASSIFIED
ADVANCED PLANNING BRIEFING FOR INDUSTRY

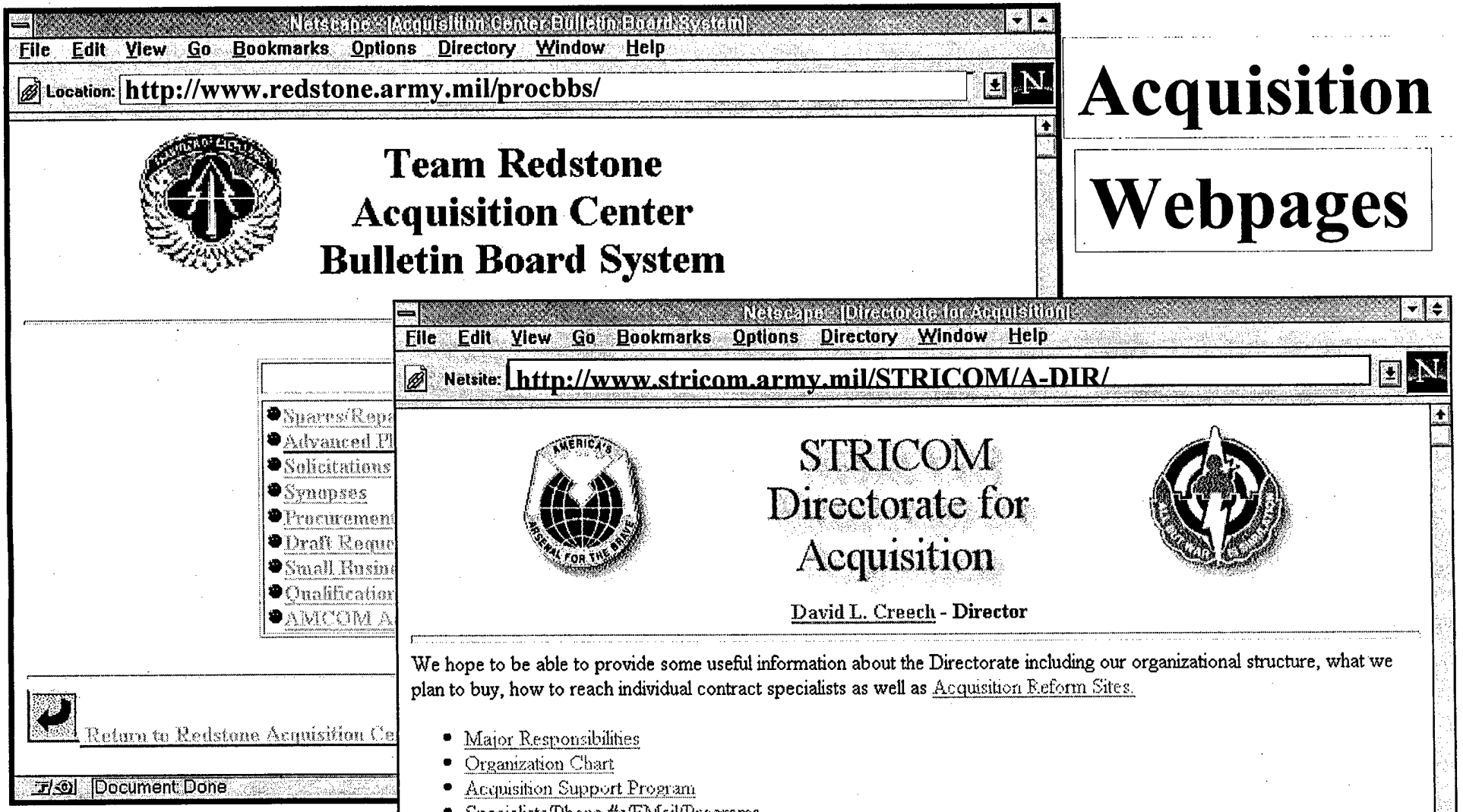
THREAT SIMULATORS MANAGEMENT OFFICE

- **Develops and Fields Representative Threat Systems**

- **Threat Simulator Characteristics:**
  - **Provides Appearance of Actual Threat**
  - **Prescribed Degree of Fidelity**
  - **Used for Testing and Training**
  - **Small Numbers / Not Destroyed in Use**



Acquisition Webpages



Visit Us On The Web:
Acquisition Webpages



- http://www.stricom.army.mil/STRICOM/A-DIR/



- http://redstone.army.mil/procbbs/

PM WARSIM



Advanced Planning Briefing for Industry (APBI) 1999

UNCLASSIFIED

ADVANCED PLANNING BRIEFING FOR INDUSTRY





PM WARSIM

COL Michael W. Rogers
Project Manager for Warfighters' Simulation 2000
ATTN: AMSTI-PM WARSIM
12350 Research Parkway, Orlando, FL 32826-3276
(407)384-3650, DSN 970-3650
email: Michael_Rogers@stricom.army.mil

DPM: Stanley A. Goodman
(407)384-2652, DSN 970-3652
email: Stan_Goodman@stricom.army.mil

APM WARSIM

Mr. Kent Brookins
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DSN 970-3644
email: Kent_Brookins@stricom.army.mil

PM C4ISS

LTC Stephen Rust
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12350 Research Parkway
Orlando, FL 32826-3276
(407)384-3630
DSN 970-3630
email: Stephen_Rust@stricom.army.mil

WARSIM Program Description and Vision

JSIMS is the next generation simulation system for 21st Century Warfighter readiness. WARSIM 2000 satisfies JSIMS requirements as the Land Component and provides a realistic joint battlespace training environment for the performance of Army tasks based on doctrine and requirements.

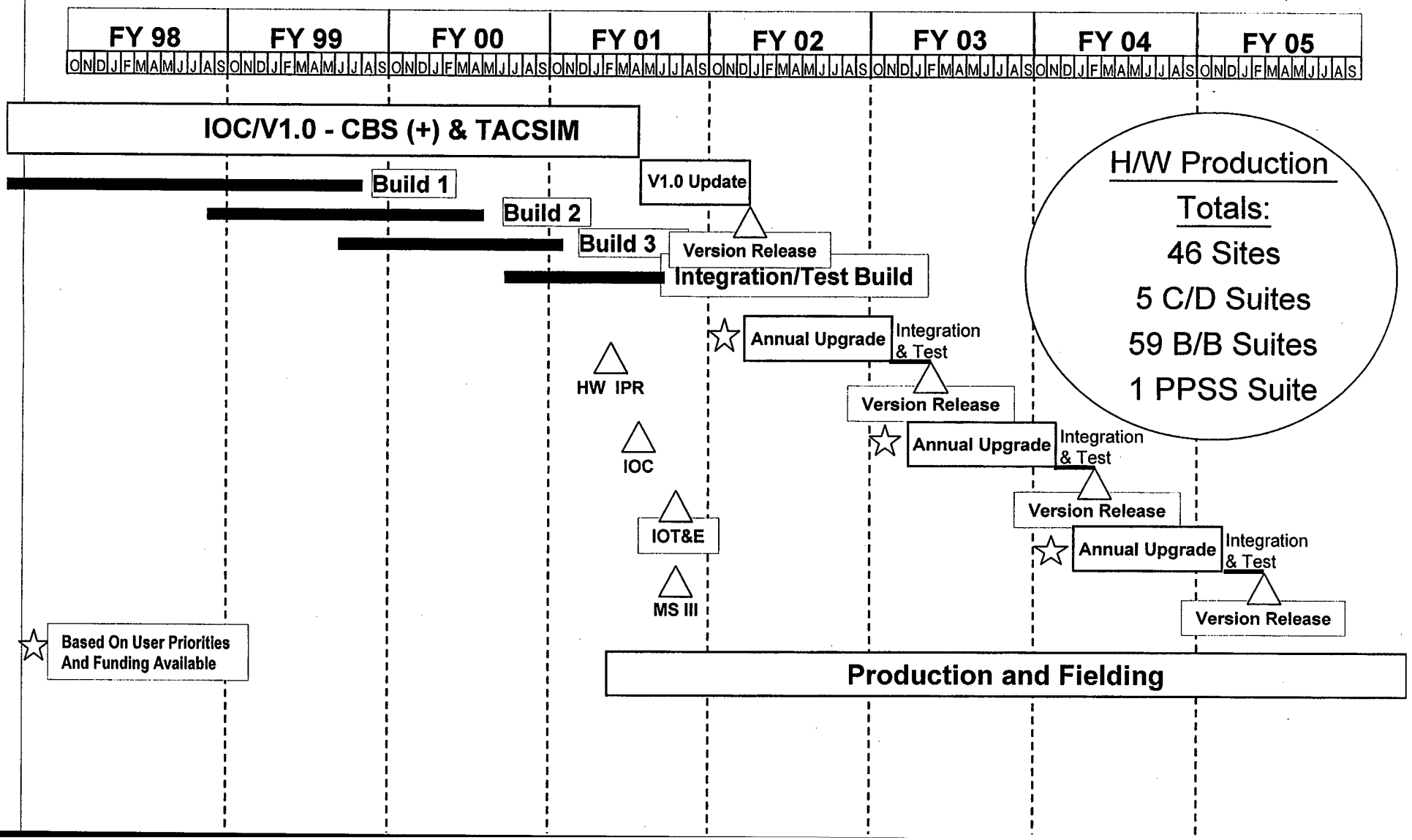


CONTRACTING OPPORTUNITIES (U)

- **WARSIM PRODUCTION**

- **ONESAF**

WARSIM 2000
Program Schedule



UNCLASSIFIED
ADVANCED PLANNING BRIEFING FOR INDUSTRY

CONTRACTING OPPORTUNITY (U)
WARSIM

PROGRAM NAME: Production

ESTIMATED VALUE: >$70M

POINTS OF CONTACT:

Contracts: Judi Willis
(407) 380-4068
Judi_Willis@stricom.army.mil

Program Office: Paul Watson
(407) 384-3623
Paul_Watson@stricom.army.mil

CONTRACT TYPE: TBD

TYPE OF AWARD: TBD

SOLICITATION DATE: Summer 00

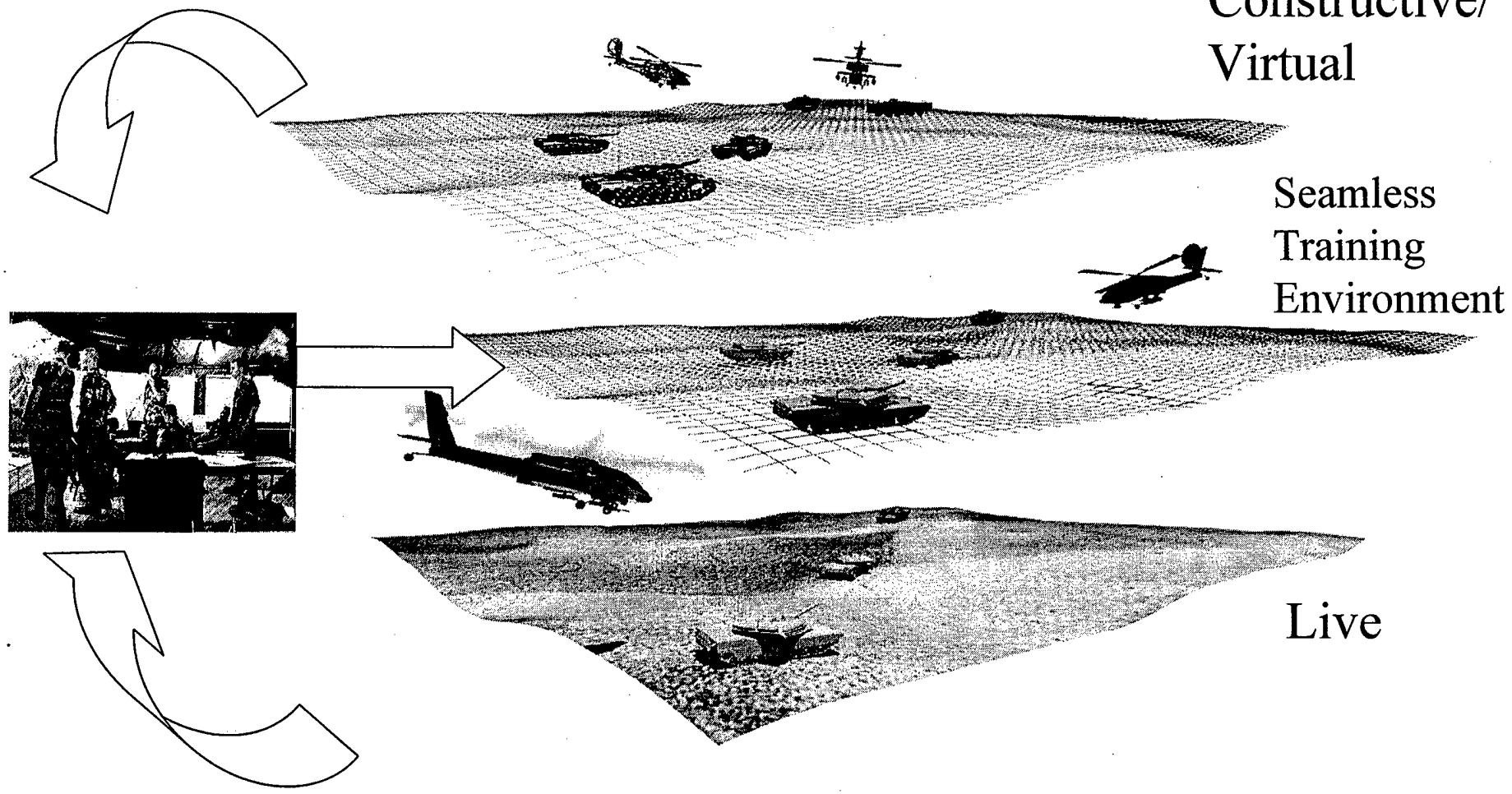
AWARD DATE: Feb 01

UNCLASSIFIED

ADVANCED PLANNING BRIEFING FOR INDUSTRY

CONTRACTING OPPORTUNITY (U)

OneSAF



CONTRACTING OPPORTUNITY (U)
ONESAF

PROGRAM DESCRIPTION

OneSAF will be a composable, next generation Computer Generated Forces (CGF) system that can represent a full range of operations, systems, and control processes from the individual combatant and platform to brigade-level operations. The user for OneSAF will include the Research, Development and Acquisition (RDA) domain; the Advanced Concepts and Requirements (ACR) domain; and the Training, Exercise, and Military Operations (TEMO) domain.

UNCLASSIFIED

ADVANCED PLANNING BRIEFING FOR INDUSTRY

CONTRACTING OPPORTUNITY (U)

PROGRAM NAME: OneSAF

ESTIMATED VALUE:$50 - $100M

POINTS OF CONTACT:

Contracts: Kim Denver
(407) 381-0818
denverk@stricom.army.mil

Program Office: MAJ Jim Vaglia
(407) 384-3624
Jim_Vaglia@stricom.army.mil

Traci A. Jones
(407) 384-3927
Traci_A._Jones@stricom.army.mil

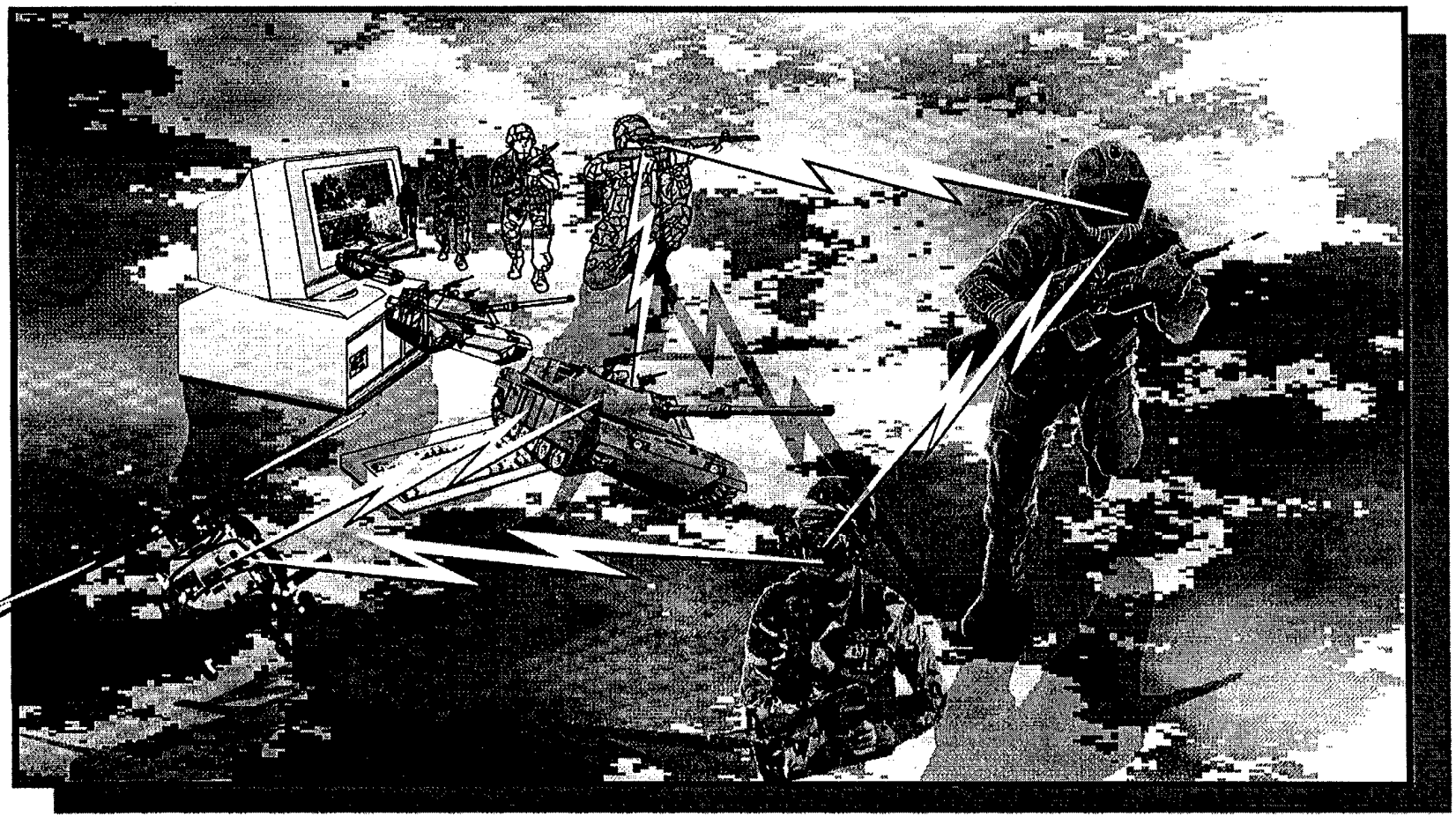
CONTRACT TYPE: Cost reimbursable with incentive fee, award fee, and fixed fee CLIN's as appropriate.

TYPE OF AWARD: Full & Open

SOLICITATION DATE: Summer 00

AWARD DATE: Early 01

ENGINEERING DIRECTORATE



Shaping the Future of Simulation Excellence

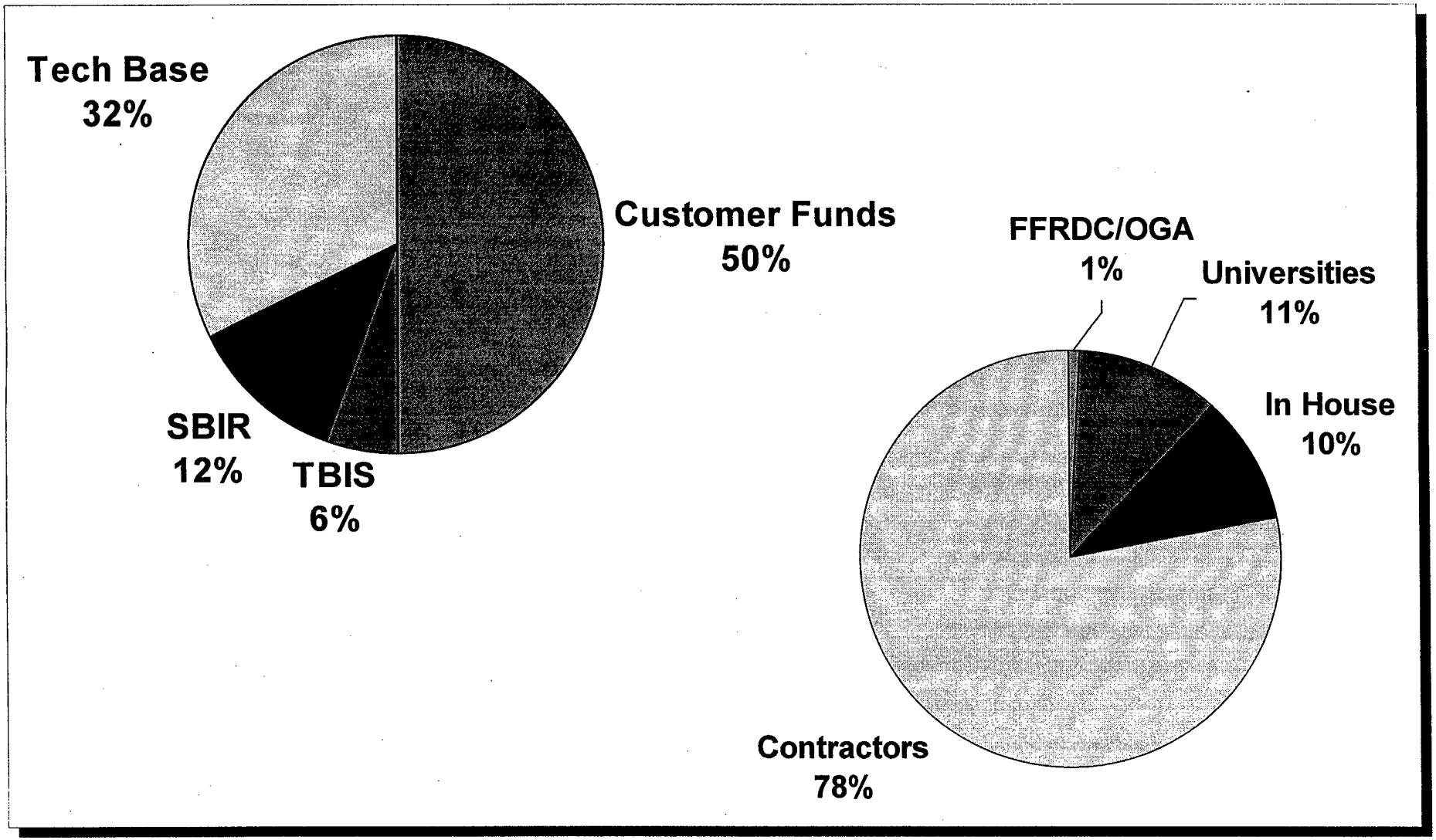
STRICOM's Technology Base Program

- Technology Base Funds
- Small Business Innovative Research (SBIR) Program
- Customer Funds

Purpose

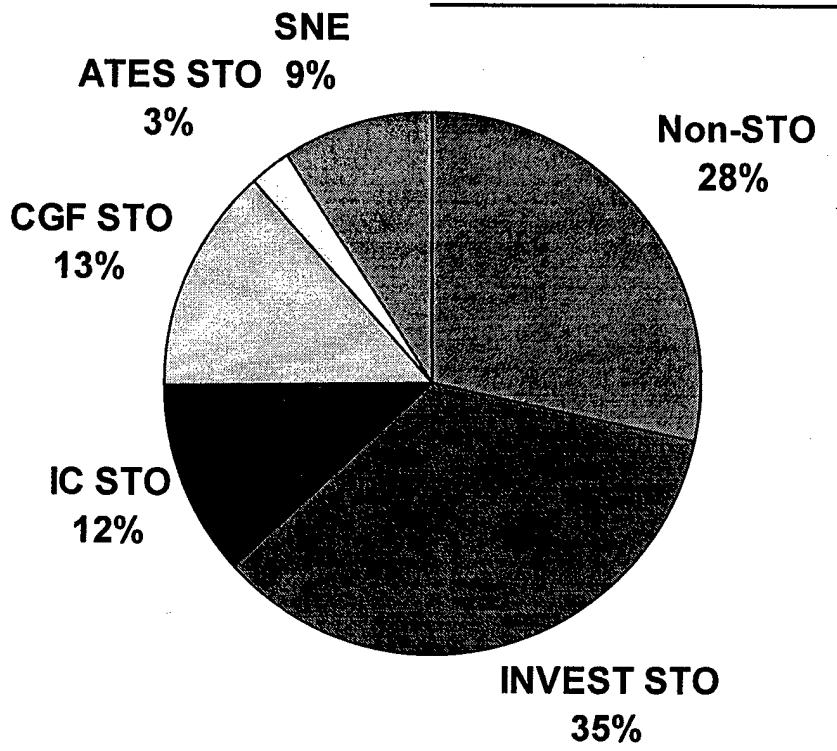
- Provide information on:
  - –Processes
  - –Opportunities

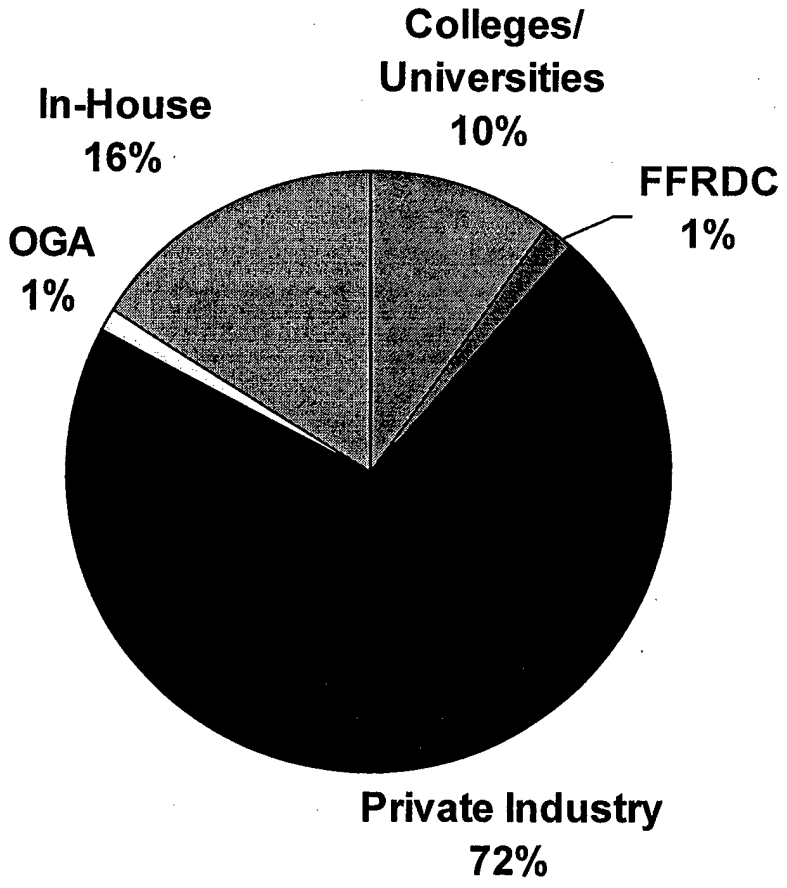
FY99 Funding Allocation



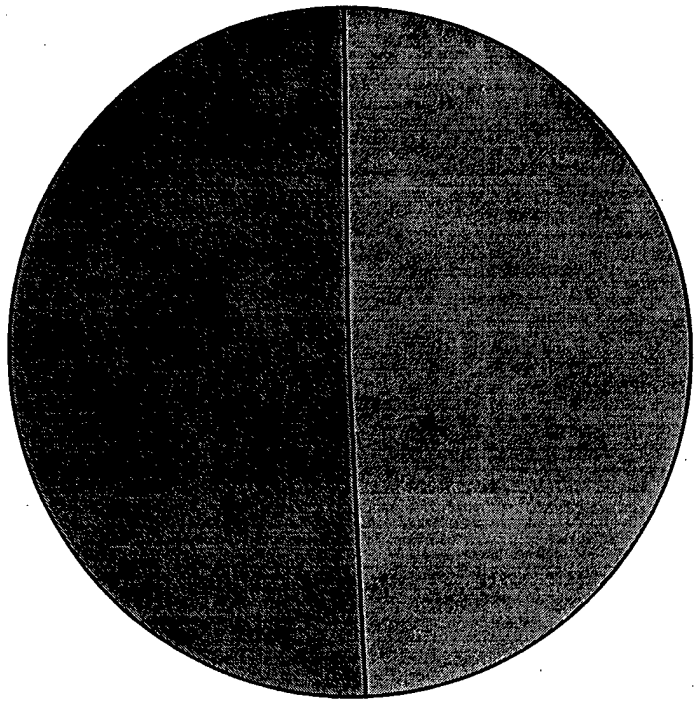
STRICOM
Technology Base Overview

FY99 0602308 AC90 allocation





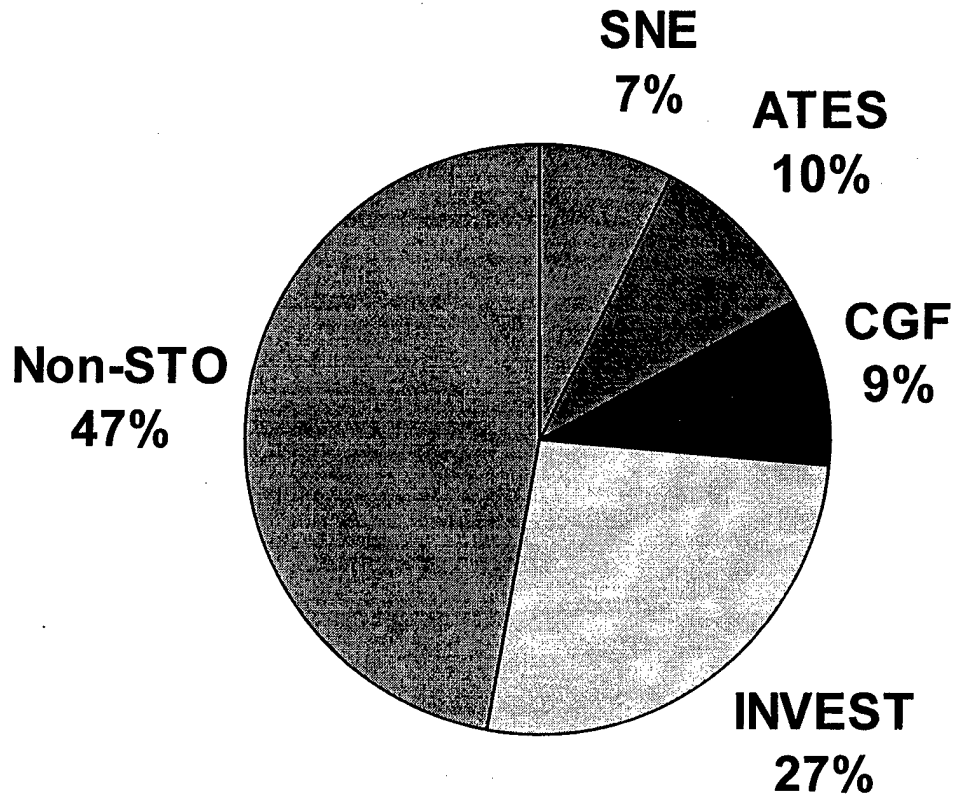
STRICOM
Technology Base Overview



Continuations
51%

New Starts
49%

FY00 Projected Tech Base

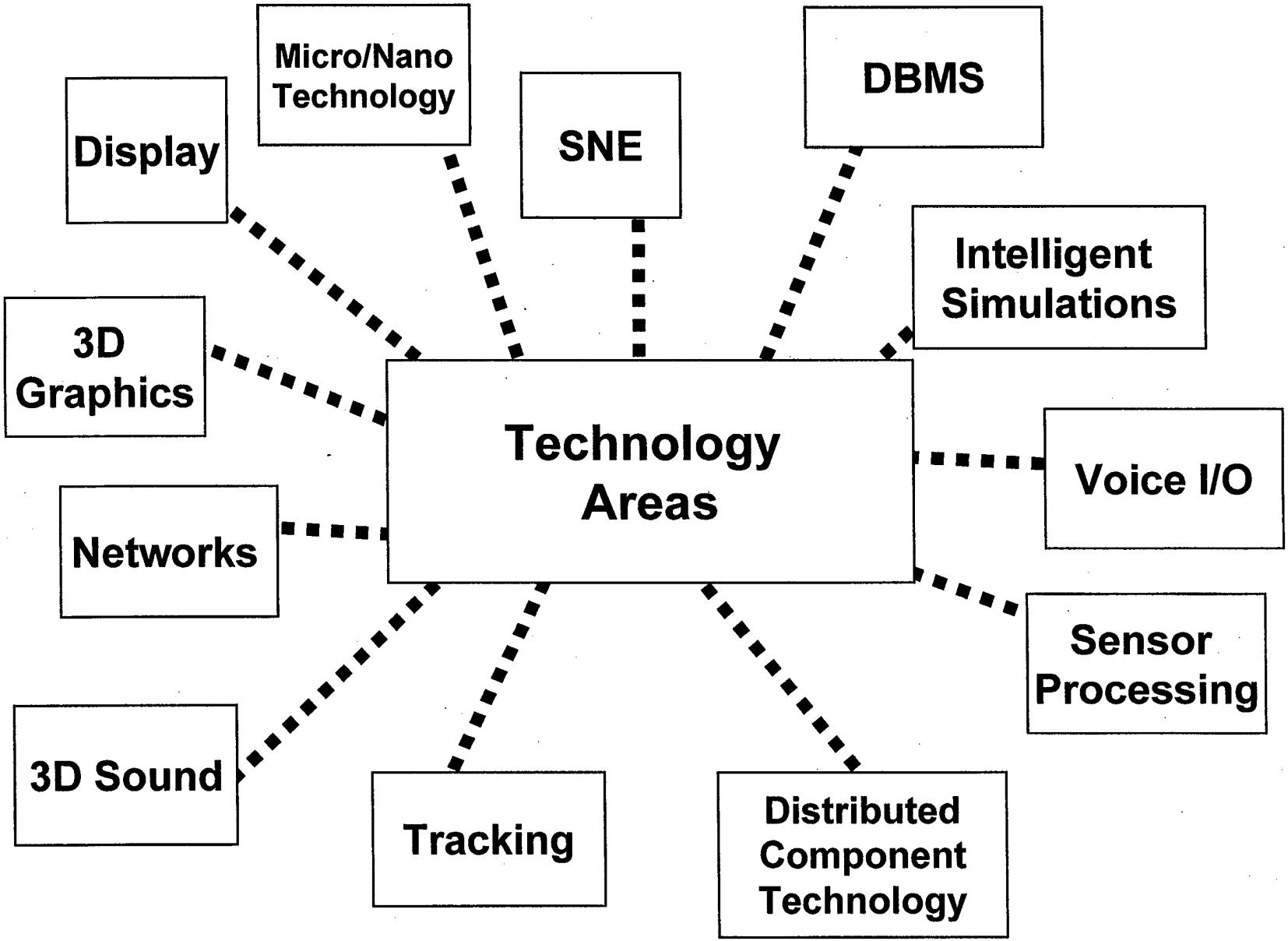


INVEST = Inter-Vehicle Embedded Simulations Technology

CGF = Computer Generated Forces

ATES = Advanced Tactical Engagement Simulations

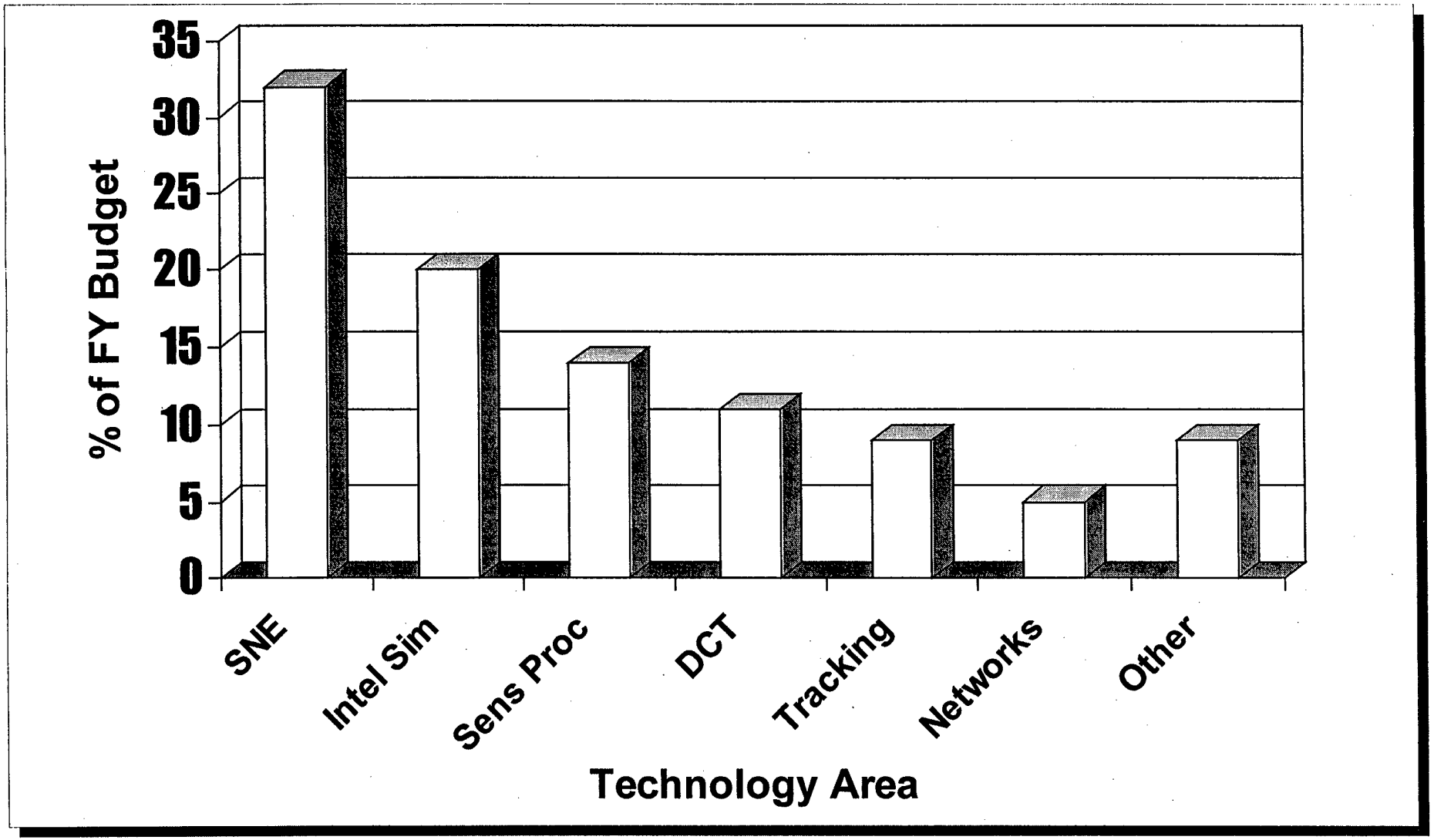
SNE = Synthetic Natural Environment for Simulation and Training


Micro/Nano Technology
DBMS
Display
SNE
Intelligent Simulations
3D Graphics
Technology Areas
Voice I/O
Networks
Sensor Processing
3D Sound
Tracking
Distributed Component Technology

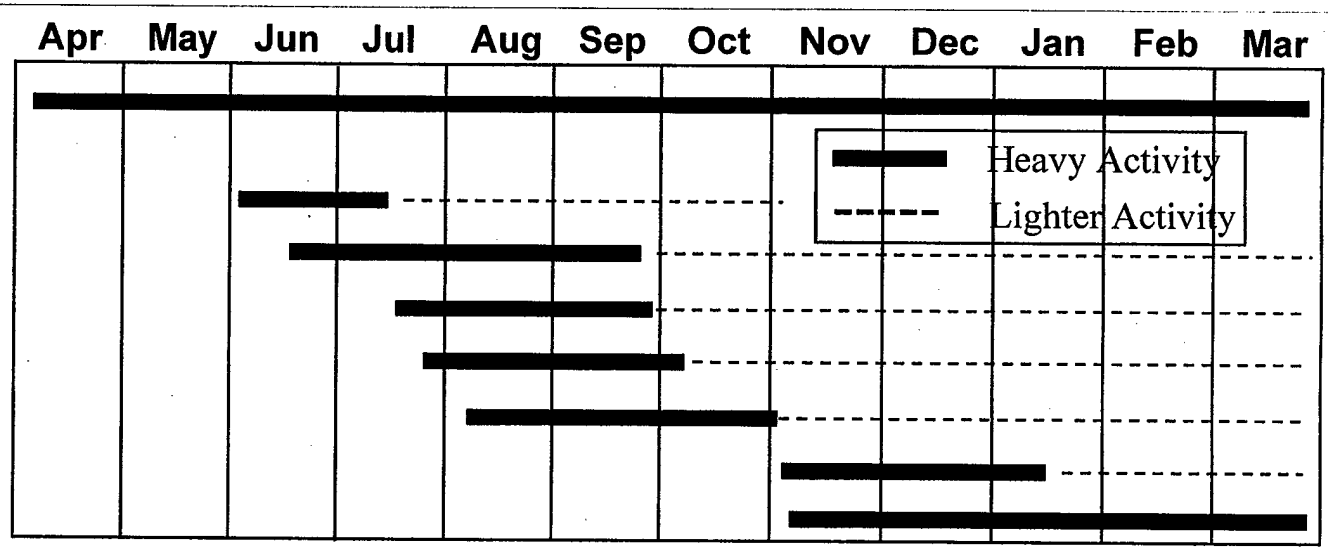
Influencing factors in our assessment...

- Satisfied SAALT areas of interest, policy
- Satisfied AMC HQ areas of interest, policy
- Satisfied TRADOC future operational capabilities (FOCs)
  - Good opportunity for transition/benefit to soldiers
- Satisfied future requirements identified by STRICOM PMs
  - Timing of need (provided by PMs)
  - Key to a product line (provided by PMs' quartile rating)
  - Broad applicability (higher rating for meeting multiple PM needs)
- Leverages other capabilities/resources (DARPA/DMSO)
- Does not duplicate existing efforts (i.e. commercial)

Recommended Technology Emphasis



STRICOM/ARI BAA Contract



BAA Open

Suggested Schedule

- White Papers Prep
- White Paper Review
- Proposal Requests
- Proposal Preparation
- Proposal Evaluation
- Contract Awards
- Performance (1 yr - 2 yrs)

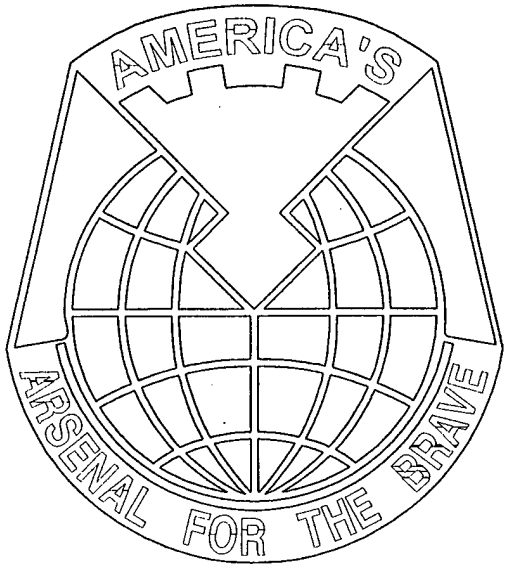
POC: Mr. Raymond F. Green

Phone: (407) 384-3925

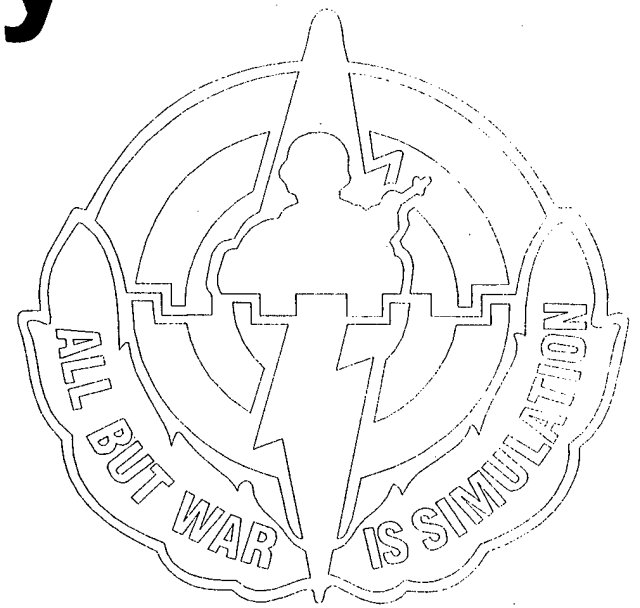
Email: Raymond_F._Green@stricom.army.mil

www: stricom.army.mil (technology)

- Identifies STRICOM and ARI Technology to industry
- Continuously open
- Contractor submits short white paper in free format for evaluation prior to request for proposal
- Evaluations performed by engineering personnel
- Current Research Topics: Battlefield Simulation, Training Device Simulators, Instrumentation, Targets and Threat Simulators, Test and Evaluation, Training Systems, and Training Systems Evaluation



Focusing Technology



Major Areas of M&S Technology Investment

- Synthetic Natural Environments
- Advanced Tactical Engagement Simulation
- Computer Generated Forces
- Individual Combatant Simulation
- Embedded Simulation Technologies
- Advanced Distributed Simulation

Synthetic Natural Environments

- Synthetic Environment Data Standardization
- Object Behavior
- Linkages to C4I Visualization Systems
- Rapid Data Base Development

Objective: To identify and demonstrate candidate standards for simulation interoperability and to prototype simulation tools and processes needed to generate authoritative, correlated, synthetic environments efficiently and at reduced costs.

Advanced Tactical Engagement Simulations

- Testing and Training of Smart and Top Attack Munitions
- Precision Small Arms Weapon System Instrumentation
- Power, Weight, and Size Reduction of TESS components
- Embedded LIVE test and training capabilities
- Geometric Pairing for Small Arms Area Effects Weapons

Objective: R&D affordable Tactical Engagement Simulation (TES) solutions to enable the live play of emerging Force XXI systems -- with specific focus on the air-bursting capability of the Objective Individual Combat Weapon (OICW) and Objective Crew Served Weapon (OCSW).

Embedded Simulation Technologies

- Intelligent Tutoring Systems
- Geo-Pairing with Aimpoint determination
- Low Cost IG, Visual Systems
- Synchronized CGF Systems

Objective: To demonstrate the capability to fully embed an advanced distributed simulation system in combat vehicles to support training at home station or while deployed.

Individual Combatant Simulations

- Simulation of Night Equipment & Sensor Images
- IC representation with CGFs
- Visual Display Systems
- Voice and Gesture Recognition
- Locomotion Systems
- Urban Combat Simulation

Objective: To provide effective methods, strategies and procedures for use of Virtual Environment (VE) technology to prepare the infantry small unit leader for the conduct of night, MOUT and contingency operations through improved training and/or mission rehearsal.

Computer Generated Forces

- Dynamic multiple forces and sides
- Unified Entity Maneuver
- Composable Behavior Technology

Objective: Investigate, prototype and demonstrate the use of simulation technologies to enhance the intelligence, scale and realism of CGF implementations

(CGF Conference: May 11-13, 1999

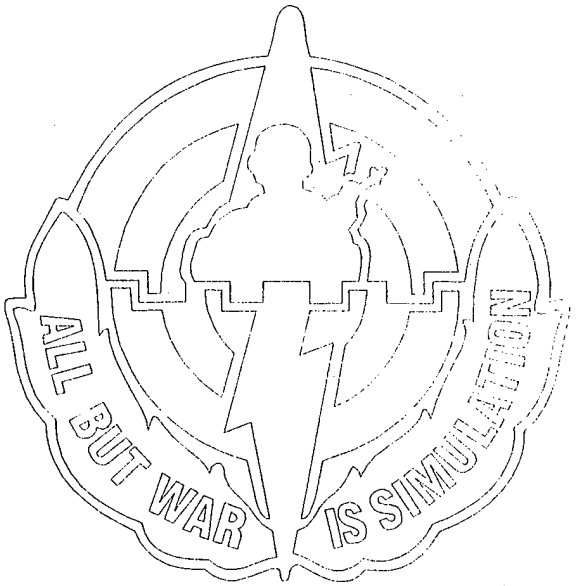
Networked Battlefield Distributed Simulation Technologies and General Linkages of Simulators and Simulations

- **HLA and SEDRIS**
- **Entertainment Industry Modeling & Simulation**
- **Simulator Interoperability**
- **Technology Based Training**

Objective: Develop and demonstrate enabling technologies to link interactively within and among all three classes of simulations - virtual, constructive and live.

Small Business Innovation Research Program

(SBIR)



History and Purpose of SBIR

- Congress initiated SBIR in 1982
- Program reauthorized in 1992 and is extended to 1 October 2000
- Program resourced by 2.5% "assessment" on Extramural R&D Budget
- Program's main objectives:
  - To stimulate technological innovation
  - To increase Small Business participation in Federal R&D
  - To increase private sector commercialization of technological advances developed through Federal R&D
  - To increase participation by woman-owned and by socially and economically disadvantaged small business

STRICOM's Proposed 99.2 SBIR Topics

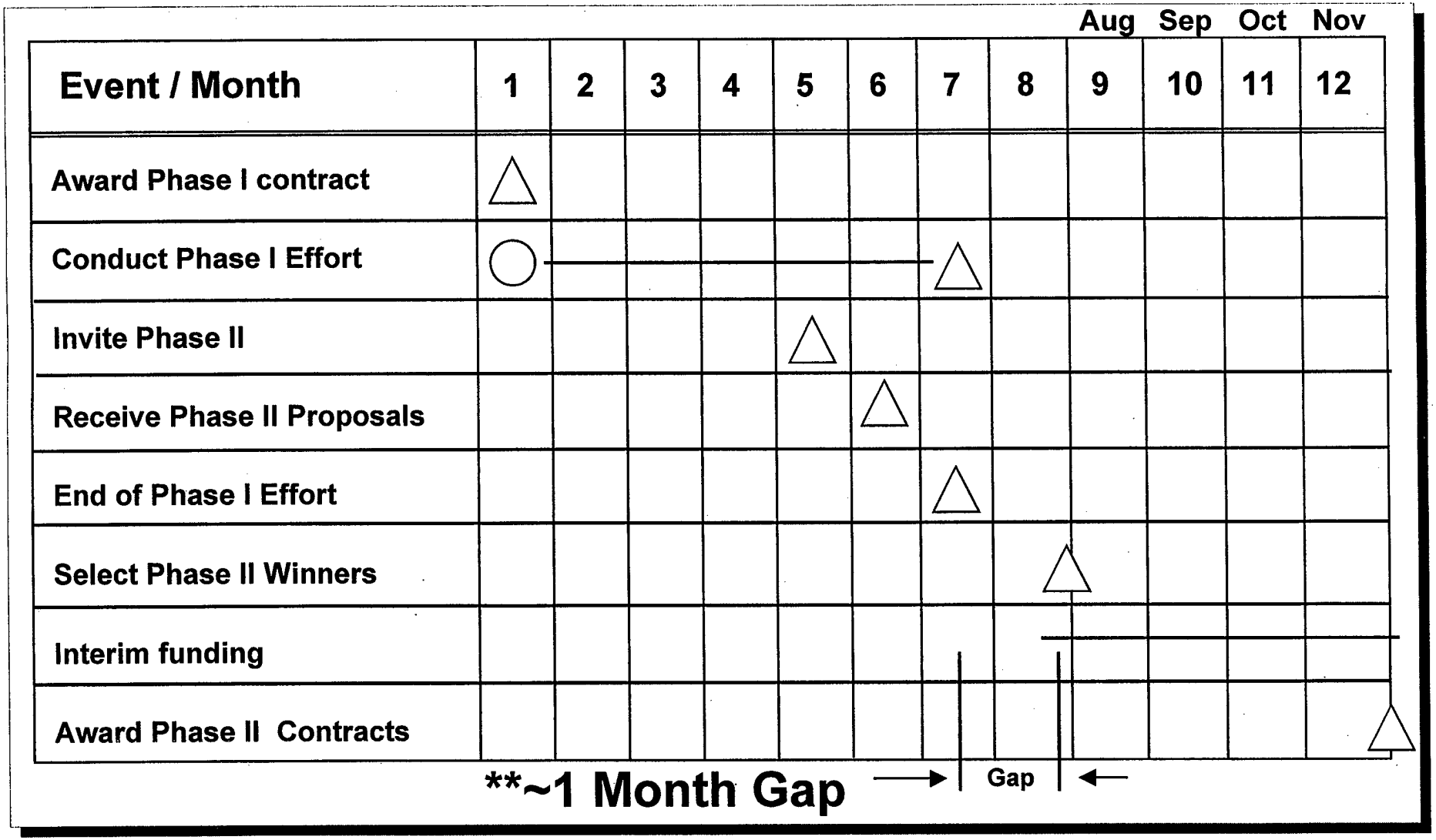
- **STRICOM-001** ***Robust Low Cost Target System Data Link***
- **STRICOM-002** ***Software Tools for Visualization of Terrain Databases***
- **STRICOM-003** ***Distributed Collaborative Java-Based Positioning Instrumentation Modules***
- **STRICOM-004** ***Multi-resolution Modeling***
- **STRICOM-005** ***PC-Based Real Time Image Generation Simulation***
- **STRICOM-006** ***Advancements in Individual Combatant (IC) Simulation Technology***

Army SBIR - 3 Phase Program

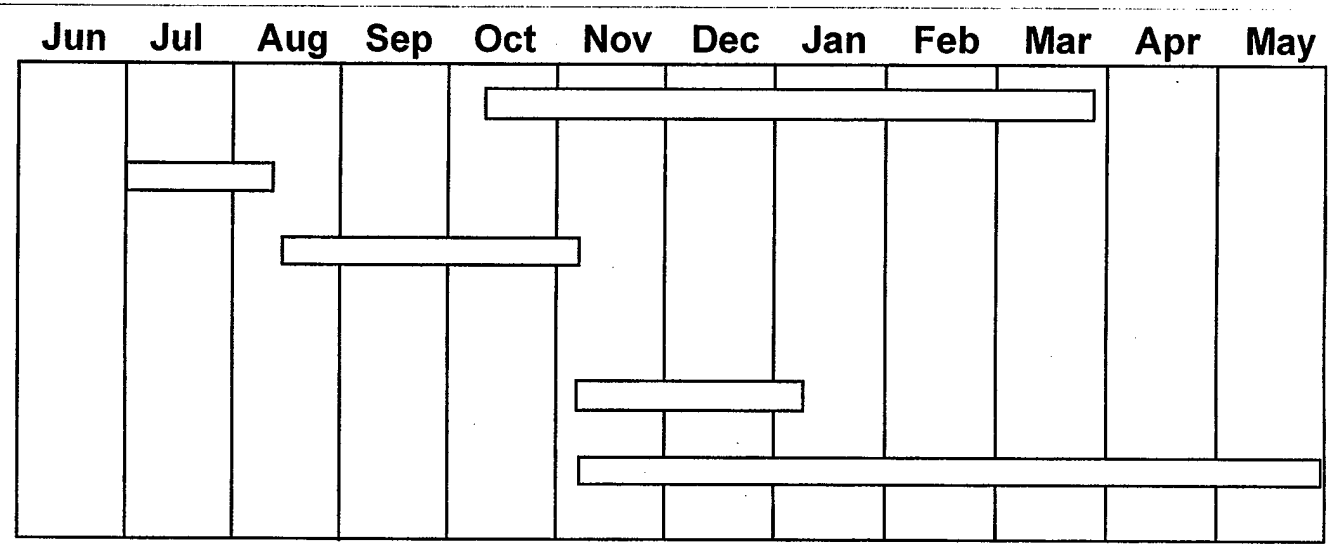
- **Phase I - Are usually 6 month, $70k *study efforts that focus on concept definition and feasibility analysis with a $ 50k option for interim gap funding**
- **Phase II - Are up to 24 months and $730k efforts for Research, Development, and Prototype development.**
- **Phase III - Is the culmination of successful Phase I and Phase II's and results in the delivery of end items that satisfy federal government requirements or in the transfer of technology into the private sector or both.**

*** Phase I and II are SBIR funded Phases while Phase III funding must come from other sources.**

Current Army Process



Army SBIR Review Cycle



- Congressionally mandated program
- R&D in Science and Engineer
- Topic descriptions provided by Army
- Stimulate technical innovation
- Increase role of small business
- Transfer DoD R&D to private sector
- Phase I, usually 6 months long, concept definition, feasibility analysis
- Successful Phase I programs compete for Phase II Funding
- Phase II Programs have potential for commercialization and a sponsor

POC: Mr. Mark McAuliffe

Phone: (407) 384-3929

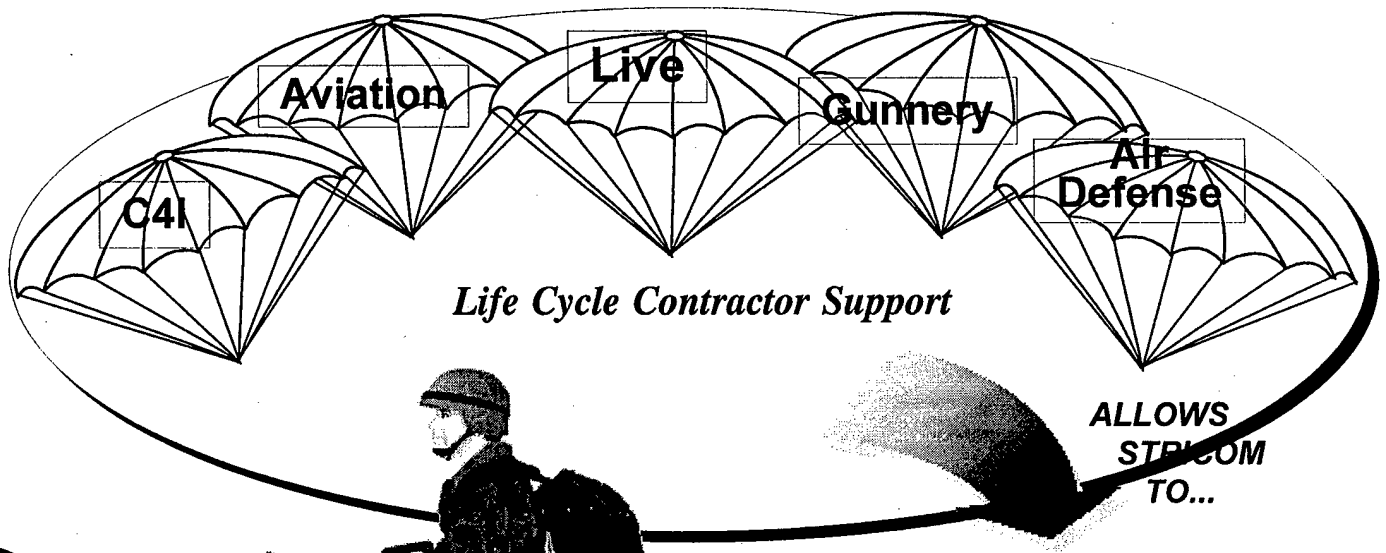
Email: Mark_McAuliffe@stricom.army.mil

Key Dates in Next Cycle

Milestone (99.2 Solicitation)

Pre-solicitation Opens on Internet (http://www.acq.osd.mil./sadbu/sbir/)	**3 May - 30 June**
Solicitation Opens	**1 July**
Phase I Proposals Due (25 pages)	**11 Aug**
Award Notification	**mid Nov**
Contract Award	**Nov-Dec**

STRICOM Logistics



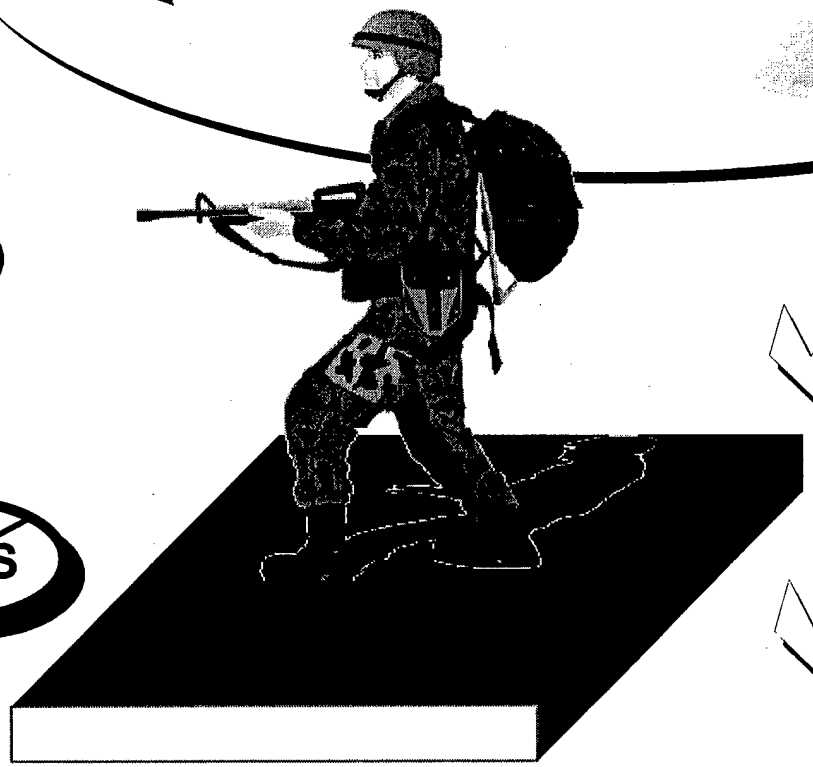
ALLOWS STRICOM TO...

~~DEPOT~~

~~IMMC~~

~~INVENTORY~~

~~CCSS~~



BLANKET THE CUSTOMER

- ON-SITE SUPPORT
- DIRECT COMMUNICATIONS (STRICOM/CUSTOMER)
- QUALITY PEOPLE (RETIRED MIL.)

FOCUS ON:

- CUSTOMER SATISFACTION
  - ANTICIPATE NEEDS
  - WRITE A FLEXIBLE CONTRACT
- READINESS
- UTILIZATION
- COST REDUCTION

STRICOM Logistics Total Life Cycle Management

CG (MDA) → **Includes Cost, Schedule, Performance and Life Cycle Responsibilities**

Providing 2 Primary Capabilities:

Acquisition Logistics IPT Members

Buyers & Managers of Life Cycle Contractor Support

PMs **PMs** **PMs** **PMs**

Logistics Directorate

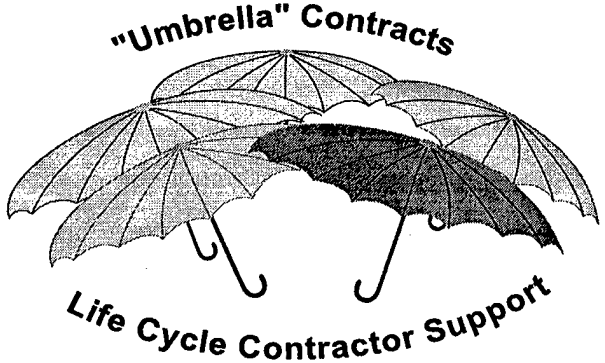
PEOs PMs

MACOMs

Other Services

FMS

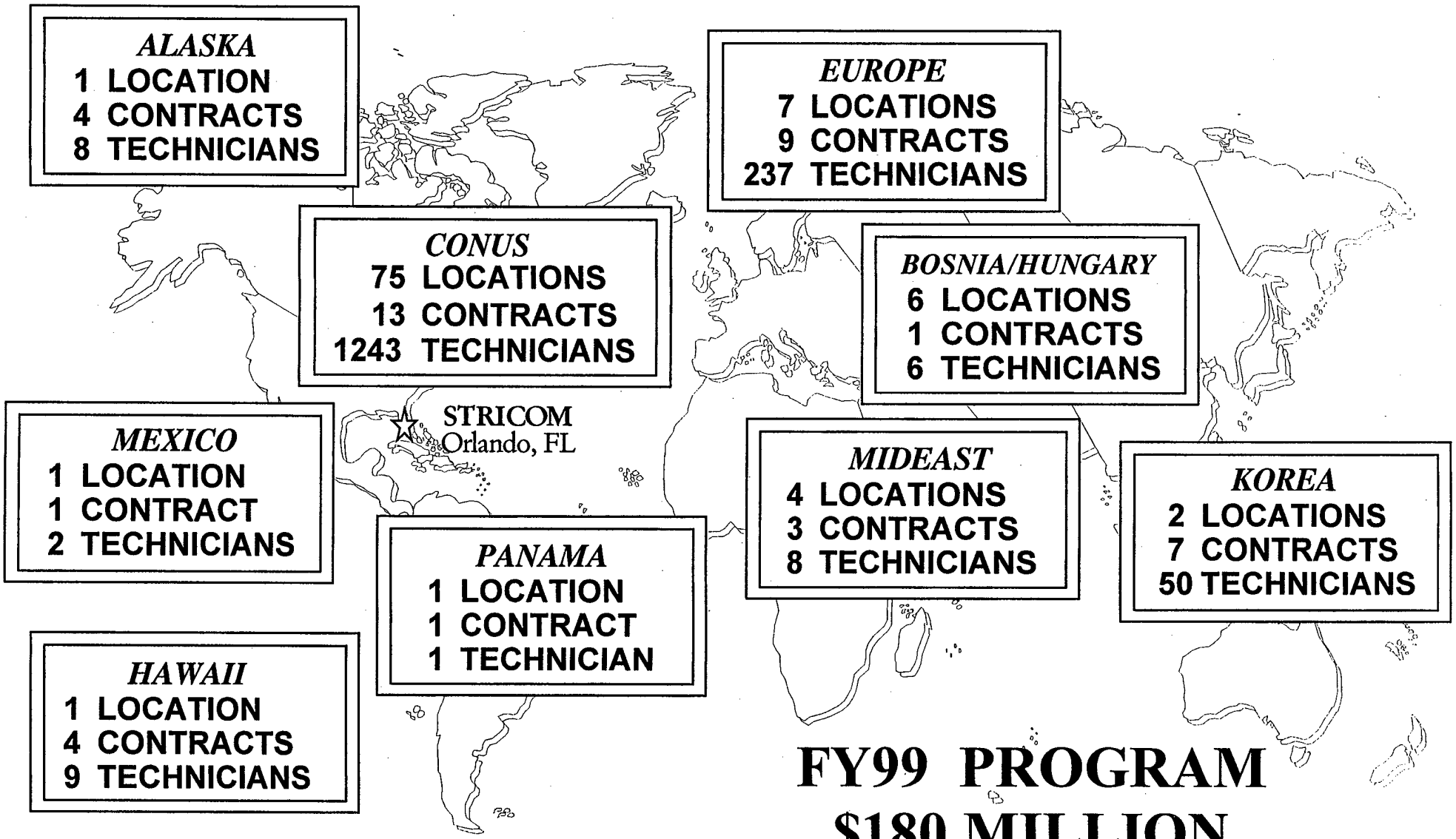
Other Agencies



Applying program management principles to Total Life Cycle Management

We "Acquire" Logistics

LCCS Worldwide Total Program



FY99 PROGRAM
$180 MILLION

STRICOM Logistics

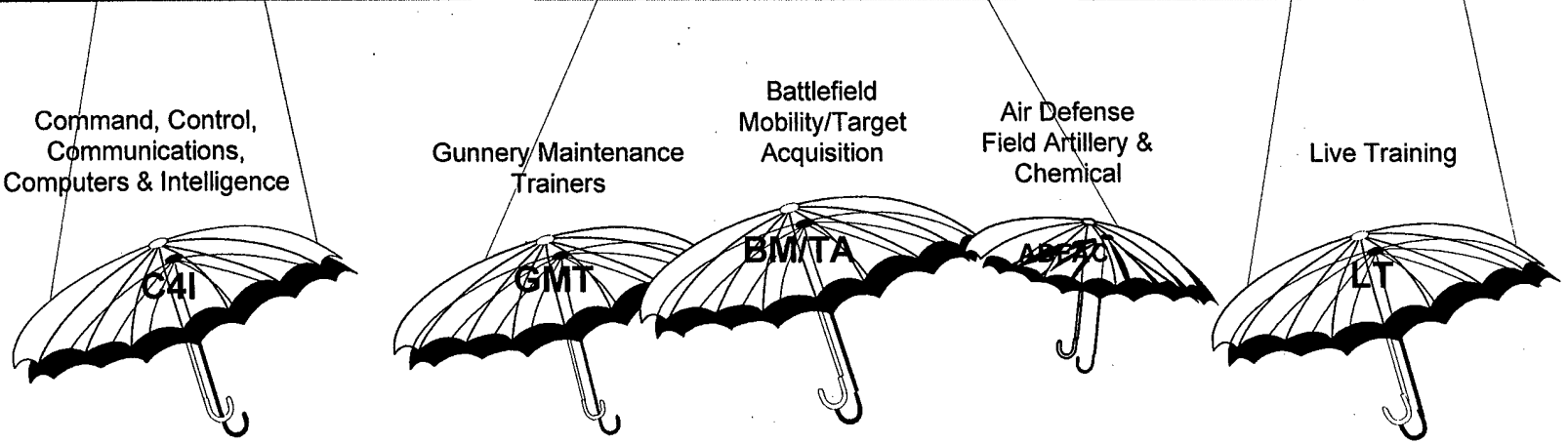
POINTS OF CONTACT

LOGISTICS DIRECTORATE
Mr. David W. Manning
(407) 384-3690
David_W._Manning@stricom.army.mil

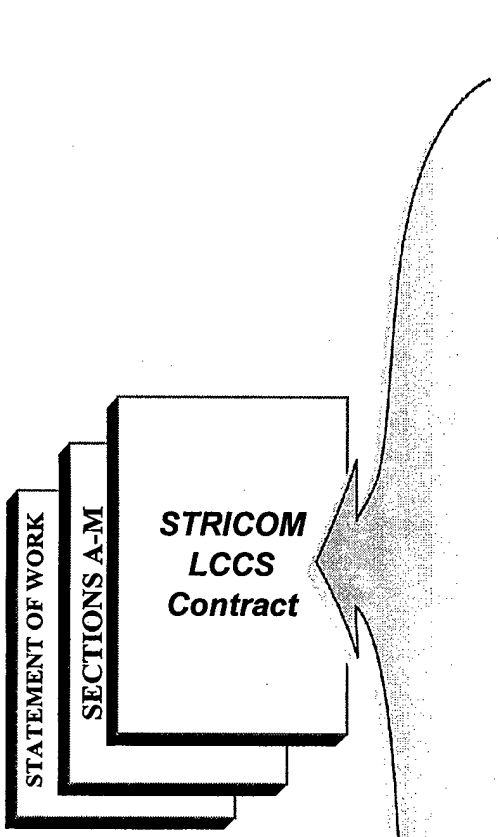
CONSTRUCTIVE SIMULATION DIVISION
Mr. Vern Brann
(407) 384-3700
Vern_Brann@stricom.army.mil

VIRTUAL SIMULATION DIVISION
Mr. John Ells
(407) 384-3715
John_Ells@stricom.army.mil

LIVE SIMULATION DIVISION
Mr. Donald Ograyensek
(407) 384-3740
Don_Ograyensek@stricom.army.mil



Life Cycle Contractor Support (LCCS) Contract Structure



- ✓ **Competitive**
- ✓ **Best Value**
- ✓ **Consolidation of multiple simulators and devices**
- ✓ **Worldwide Locations, to include deployments**
- ✓ **Fixed Price Award Fee Contracts**
  - **Award Fee focus:**
    - Reduce Life Cycle Costs
    - Extend Life of Parts
    - Increase Readiness Rates
    - Increase Customer Satisfaction
- ✓ **Time & Materials Line (Responsiveness)**
- ✓ **One Year + 4 One Year Priced Options (working on 8 year contracts)**

The Echelons of Life Cycle Contractor Support

TOTAL COST OF OWNERSHIP

Turn-Key Operation

Operators
Instructors
Role Players
Facility Management

LCCS++

TRAINED SOLDIER



LCCS+

Relocations, Conversions, Deployments, PPSS, Modifications

LCCS

STANDARD SUPPORT:
Supply, Maintenance, New Equipment Training, Engineering Services, Configuration Management, Inventory Management

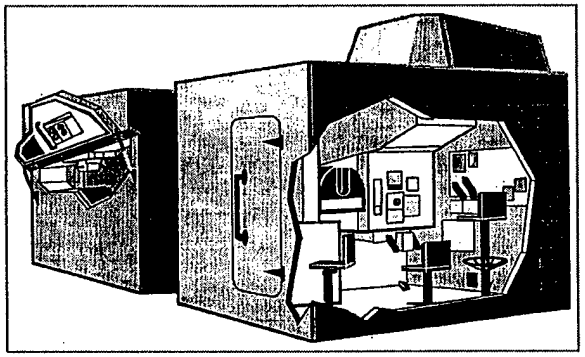
Consolidated Life Cycle Contractor Support Contracts -- Cost & Schedule

Existing LCCS Contracts	New Consolidated Contract Projected Award Dates
Synthetic Flight Simulations	BM/TA — AWARDED — Nov 98
Simulation Network Consolidated Contractor Maintenance & Supply Support Family of Simulations Operators	C4I — AWARDED — JAN 00
Combat Training Centers Tactical Engagement Simulators	LT — Oct 99
Gunnery Maintenance Trainers	GMT — Aug 00
Air Defense Field Artillery & Chemical	ADFAC — Nov 00

Command, Control, Communication, Computers & Intelligence (C^4I)

Type of Support

- ☑ LCCS
- ☑ LCCS+
- ☑ LCCS++



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POC Contracts

Jane Waller

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➢ **Number of locations:** **Forty Six (46) (CONUS, Korea, Europe, Italy)**

➢ **Types of systems/devices:** **All command, control, communications and intelligence trainers. Representative samples of these trainers are:Simulation Networking System (SIMNET), Corps Battle Simulation (CBS), All Source Analysis System (ASAS), and Basic Morse Mission Trainer (BMMT).**

➢ **Contract Award Date:** **27 Jan 99**

➢ **Estimated Dollar Value:** **$65M - $120M (5 Years)**

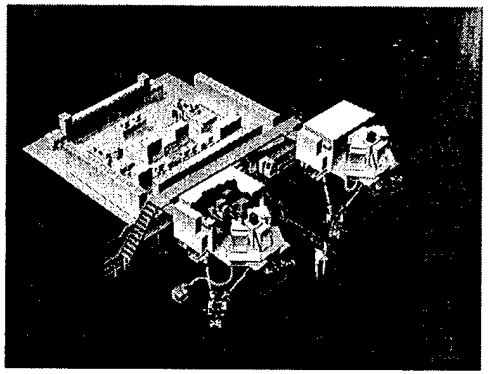
➢ **Contract Type:** **Fixed Price Award Fee (FPAF)**

Protested on 8 Feb 99

Battlefield Mobility/ Target Acquisition (BM / TA)

Type of Support

- ☑ LCCS
- ☑ LCCS+
- ☑ LCCS++



POC L-Directorate

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- ➢ **Number of systems/devices:** 110 systems/over 800 individual devices
- ➢ **Number of locations:** 19 CONUS (including Alaska and Hawaii), 2 Korea, 3 Germany, 1 Saudi Arabia, 1 Mexico
- ➢ **Types of systems/devices:** AH-1/UH-1/CH-47/OH-58/UH-60/AH-64 Aviation Flight Simulators, Maintenance Trainers and Part Task Trainers; U.S. Army Transportation School Devices (i.e., Driver Skill Trainer)
- ➢➢ **Contract Award Date:** 24 Nov 98
- ➢ **Estimated Dollar Value:** $80M -$100M (5 Years)
- ➢ **Contract Type:** Fixed Price Award Fee (FPAF)

Live Training (LT)

Type of Support

- ☑ LCCS
- ☑ LCCS+
- ☐ LCCS++



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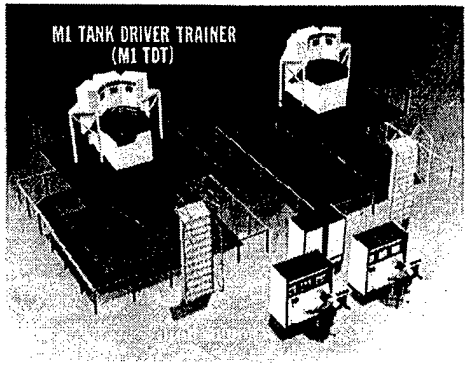
- **Number of systems/devices:** Over 250,000 Systems/Kits
- **Number of locations:** 35 (CONUS, Alaska, Hawaii, Panama, Korea, Germany, Italy, Saudi Arabia, Kuwait)
- **Types of systems/devices:** Multiple Integrated Laser Engagement Systems (MILES) Force-on-Force training devices for Foot Soldier, Tactical Ground Vehicles, and Tactical Aviation Vehicles. M16; M1 Tank; M2/M3 Bradley Fighting Vehicle; TOW Missile System; DRAGON Missile System; Air-to-Ground Engagement System (AGES) for AH-1, UH-60, CH-47, AH-64.

  National Training Center -Instrumentation System, Joint Readiness Training Center - Instrumentation System, Combat Maneuver Training Center - Instrumentation System, Area Weapon Scoring System.
- **Issue Final Solicitation:** Objective: 10 Mar 99
Threshold: 16 Apr 99
- **Contract Award Date:** Objective: 30 Aug 99
Threshold: 29 Oct 99
- **Estimated Dollar Value:** $465M - $530M (5 Years)
- **Contract Type:** Fixed Price Award Fee (FPAF)

Gunnery Maintenance Trainers (GMT)

Type of Support

- ☑ LCCS
- ☑ LCCS+
- ☑ LCCS++



POC L-Directorate

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POC Contracts

Jim Thomas

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DSN 960-8489

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- **Number of systems/devices:** 4,045
- **Number of locations:** 165 (CONUS, Korea, Europe, Kuwait, Egypt)
- **Types of systems/devices:** Abrams Tank Conduct of Fire Trainer, Bradley Conduct of Fire Trainer, Abrams Tank Driver Trainer, Abrams Tank Maintenance Trainers, Bradley Maintenance Trainers, Thru Sight Video, Precision Gunnery Training System, M1A2 Advance Gunnery Training System
- **Issue Final Solicitation:** Objective: Dec 99
Threshold: Mar 00
- **Contract Award Date:** Objective: Jul 00
Threshold: Nov 00
- **Estimated Dollar Value:** $50M - $100M (5 Years)
- **Contract Type:** Fixed Price Award Fee (FPAF)

Air Defense Field Artillery & Chemical (ADFAC)

Type of Support

- ☑ LCCS
- ☐ LCCS+
- ☐ LCCS++



POC L-Directorate

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POC Contracts

Todd Doucett

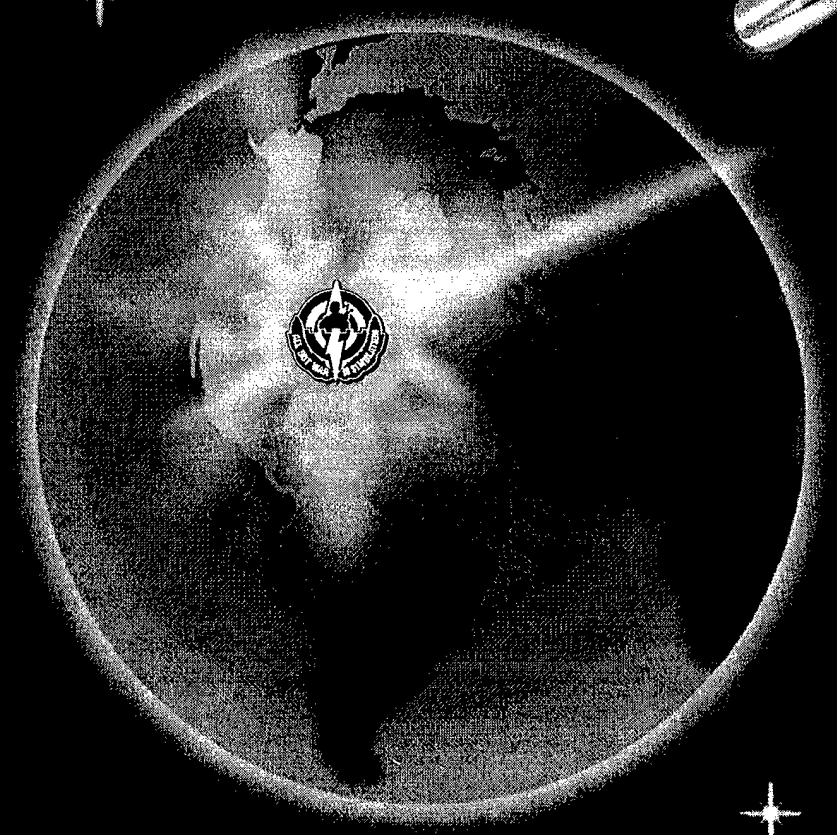
Todd_Doucett@stricom.army.mil

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(407) 380-8862

- ➢ **Number of systems/devices:** 29 Different Type Systems, 802 Systems, 599 Devices
- ➢ **Number of locations:** Fort Sill, OK; Fort Bliss, TX; Redstone Arsenal, AL; Fort McClellen, AL; Fort Bragg, NC; and various sites world wide that are supported through site visits or mail-in repair.
- ➢ **Types of systems/devices:** FSATS, HATS, FOX, MTS, IMTS, PIMITS, JTIDS, RTS, JROMPS, AN/TPQ-36, AN/TPQ-37, FID, FIMIT, EIDS, STPT AND GUARDFIST II
- ➢ **Solicitation Dates:** Objective Date: 1 May 99 (EST)
Threshold Date: 1 August 99 (EST)
- ➢ **Contract Award Dates:** Objective Date: 1 August 00 (EST)
Threshold Date: 1 October 00 (EST)
- ➢ **Estimated Dollar Value:** $25M (5 Years)
- ➢ **Contract Type:** FPAF (Small Business)

STRICOM



Security Assistance "Deep & Future" Impact

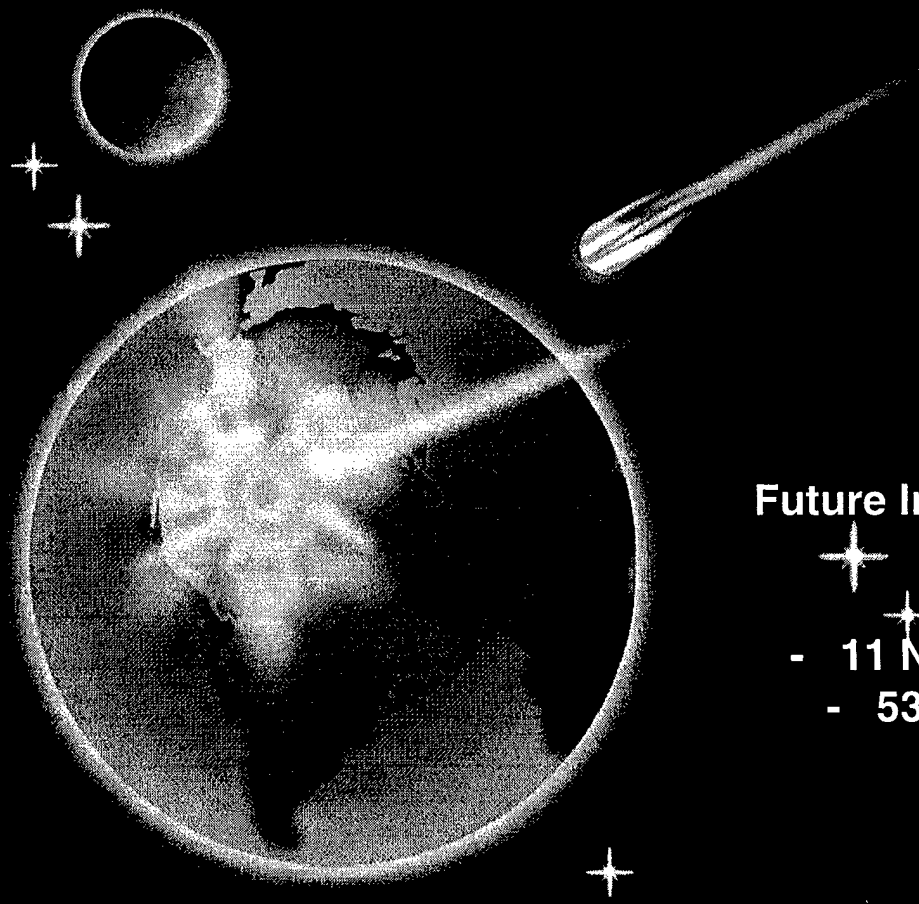
Advanced Planning Briefing to Industry
April 21 - 23, 1999

Mr. John Daniele
Chief, Strategic Planning and Program Development

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Security Assistance Impact
(Global)

Deep Impact: $500M - 36 Countries - 135 FMS Cases



Top 5: Saudi Arabia
Egypt
Kuwait
Saudi National Guard
Japan

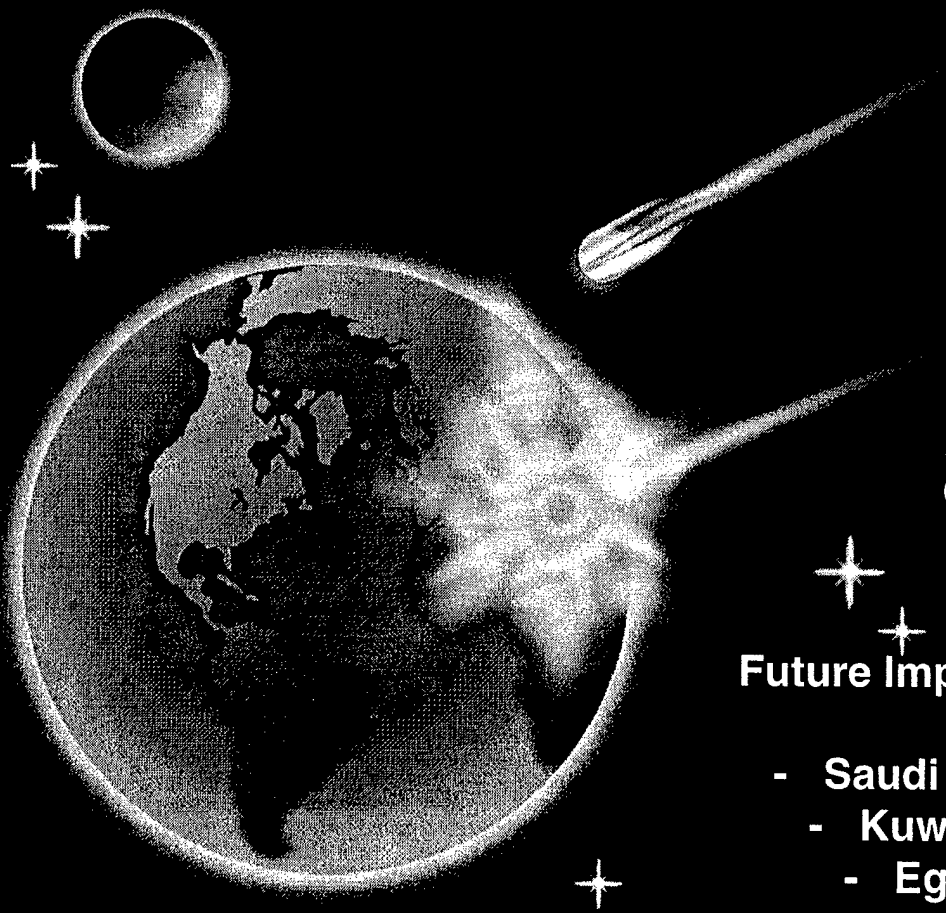
Future Impact: $40M FY99
$165M FY00 - Beyond

- 11 New Countries
- 53 Planning Cases Processed

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Security Assistance Impact
(CENTCOM)

Deep Impact: $431M - 7 Countries - 36 FMS Cases



Saudi - Armor, Infantry, Aviation, Air Defense
Egypt - Armor, Aviation, Air Defense
Kuwait - Armor, Air Defense
Bahrain - Armor
Oman - Armor

Future Impact: $91M

- Saudi - Air Defense, Infantry
- Kuwait - Artillery
- Egypt - Armor
- Qatar - Armor

Future Impact
(CENTCOM)

Saudi Arabia Aerial Targets

Program Description:

The Royal Saudi Air Defense Force (RSADF) has selected the MQM-107D Aerial Target System to fulfill all of their in-country Air Defense Artillery (ADA) Live Fire Training requirements. The need for live fire Annual Service Practice (ASP) for newly fielded systems such as PATRIOT has increased the priority of this program. The RSADF does not currently have an Aerial Target System.



STRICOM's Role:

STRICOM will provide all hardware and services necessary to conduct in-country live fire ASP for over 8 different ADA systems. STRICOM will provide the MQM-107D as the Aerial Target and will provide Flight Services through our combined Aerial Flight Services contract.

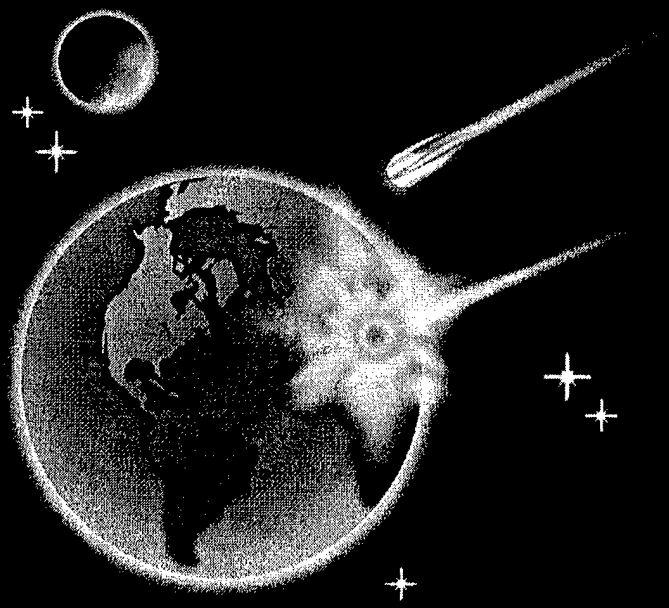
Estimated Total Cost - $48M

Future Impact
(CENTCOM)

Kuwait
Paladin

Program Description:

Provide the Kuwait Land Forces with two plus Battalions equipped with M109A6 Paladin Self-Propelled Howitzers. Program will also modernize the Kuwait Artillery Corps Target Acquisition and Fire Direction Center capabilities through the provision of the U.S. Army AFATDS and FIREFINDER Radars.



STRICOM's Role:

STRICOM has proposed two sets of FSCATT, each comprised of a Howitzer Crew Trainer (HCT) and Collective Training Control System (CTCS). Two each 1:30 and 1:1 GUARDFIST were also offered for Forward Observer Training.

Estimated Total Cost - $4.4M

Security Assistance Impact
(EUCOM)

Deep Impact: $14M - 19 Countries - 38 FMS Cases



Germany - CMTC Rotation
Israel - Aviation
Denmark - Air Defense
Norway - Air Defense
Czech - BCTP

Future Impact: $88M

- Greece - Armor
- Turkey - Armor
- Czech - Armor, Infantry

Future Impact
(EUCOM)

Turkey
Armor

Program Description:

The Turkish Land Forces Command has initiated a transition aimed at modernizing and reorganizing the Turkish Army from one based on Light Infantry Divisions to one based on Mechanized and Heavy Brigades. The intent is to establish a co-production program which provides Turkey with a significant portion of Workshare associated with the acquisition of up to 2,000 Main Battle Tanks.



STRICOM's Role:

STRICOM was asked by the U.S. Army PEO Ground Combat and Support Systems to review and comment on the Draft Acquisition Strategy for co-production of the Abrams tank. Response included the identification of M1A2 Training Devices and Simulators currently being purchased by the U.S. Army and other FMS customers.

Estimated Total Cost - $40M

Future Impact
(EUCOM)

Greece
Armor

Program Description:

The Hellenic Army (HA) intends within the next years to procure a new generation Main Battle Tank and is conducting market research towards this end. The HA requested from the U.S. Army, Price and Availability (P&A) data for 250ea M1A2 tanks.



STRICOM's Role:

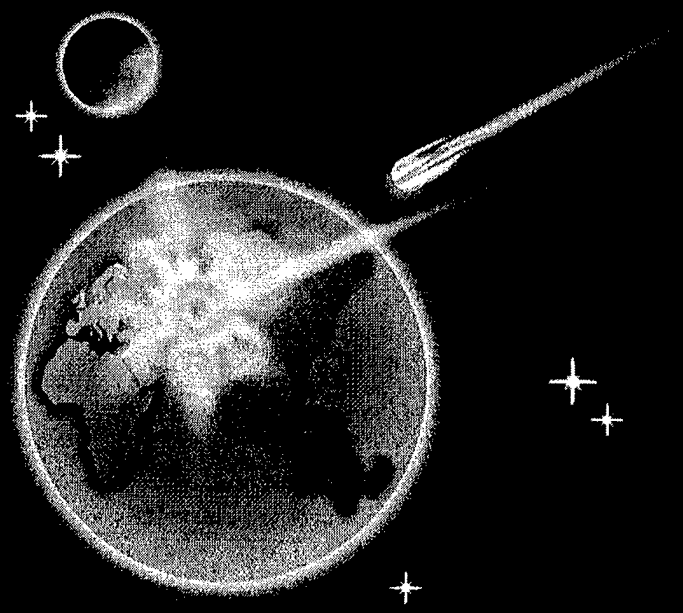
In support of the HA's request, STRICOM provided P&A data for 4ea AGTS, 1ea TDT, 60 sets TWGSS, 120 Sets MILES and a suite of tank maintenance trainers.

Estimated Total Cost - $38.1M

Future Impact
(EUCOM)

Czech Republic
MILES

Program Description:
The Army of the Czech Republic has requested a Mechanized Battalion like set of MILES for equipment of non-U.S. origin which will allow Force-On-Force Training, including Joint Training of NATO member countries.

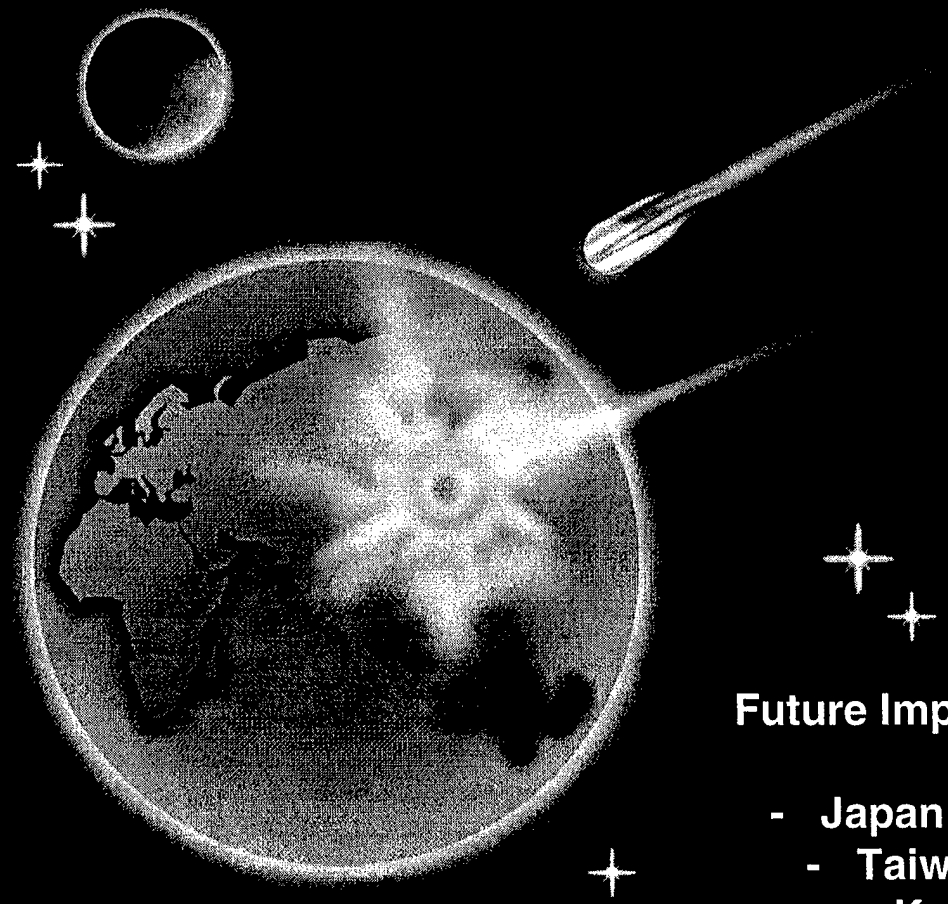


STRICOM's Role:
STRICOM has proposed a Total Package approach sale to include requested Hardware, Spares, Manuals, Training, Special Tools and Test Equipment and Contractor Logistics Support.

Estimated Total Cost - $5.4M

Security Assistance Impact
(PACOM)

Deep Impact: $55M - 8 Countries - 58 Cases



Japan - Air Defense
Korea - Air Defense, BCTP
Taiwan - Air Defense
Singapore - Aviation
Australia - Aviation, BCTP

Future Impact: $23M

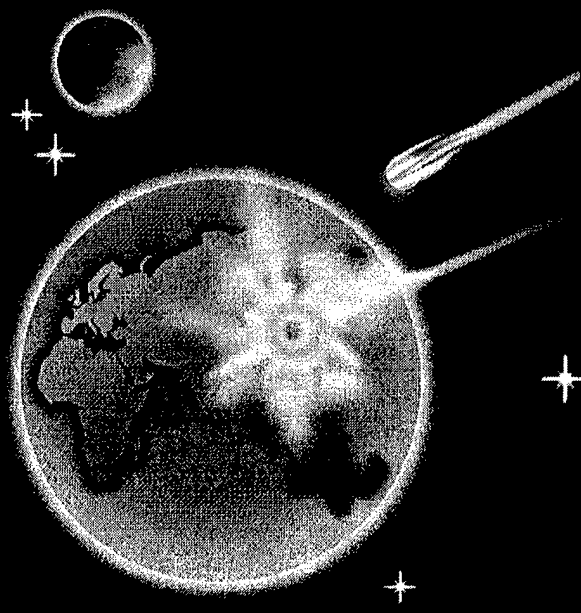
- Japan - Air Defense
- Taiwan - Intel, Armor
- Korea - Air Defense

Future Impact
(PACOM)

Japan
Aerial Targets

Program Description:

Japan conducts its Annual Service Practices (ASPs) for both the PATRIOT and HAWK Air Defense Artillery (ADA) Systems at White Sands Missile Range (WSMR) and Ft. Bliss. Japan also uses WSMR to Conduct Tests and Verify Lot Acceptance of PATRIOT and HAWK Missiles produced in Japan. Japan intends to use WSMR in FY 00-01 to test their new Chu-SAM ADA Missile System currently under development.



STRICOM's Role:

STRICOM provides the MQM-107D Aerial Target and Flight Services for Japan's PATRIOT and HAWK ASPs at WSMR and Ft. Bliss. STRICOM provides these services on a Yearly Basis and provides the Hardware and Services through existing U.S. Army contracts. STRICOM will provide the MQM-107D for the Chu-SAM Missile Test Program on WSMR and will also coordinate the use of additional Targets managed by other services.

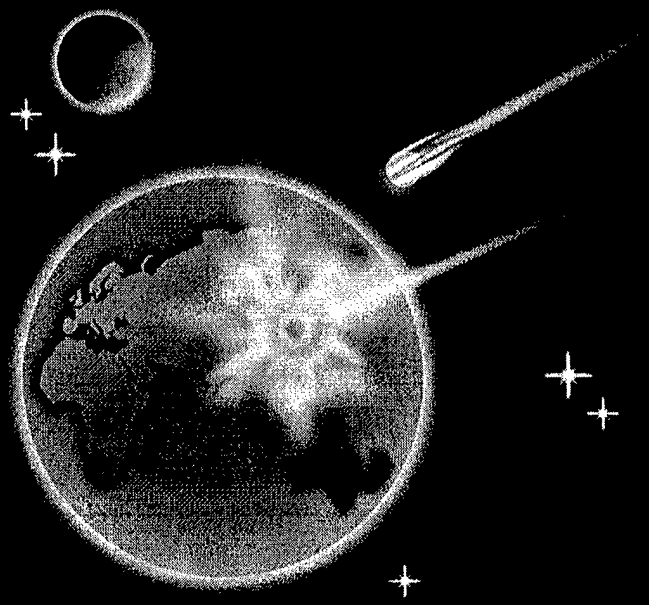
Estimated Total Cost - $18.4M

Future Impact
(PACOM)

Taiwan IEW

Program Description:

IEW Program is comprised of Two Phases: The immediate lease of U.S. Army Standard Direction Finding, Intercept and Jamming Systems and the Subsequent Purchase of a COTS/NDI Suite tailored to meet the Long Term Requirements of the Taiwan Army.



STRICOM's Role:

Originally asked to provide Price and Availability (P&A) data for the acquisition of a Training and Simulation Suite for COTS/NDI at the Taiwan Army Intel/Signal School. STRICOM's role has evolved to provide Consultant Services to support the development of a Total Package Training Strategy to support Taiwan Army IEW Modernization.

Estimated Total Cost - $395K

Security Assistance Impact
(SOUTHCOM)

Deep Impact: $82K - 2 Countries - 3 Cases



Argentina - Aviation

Colombia - Aviation

Future Impact: $3.7M

- Argentina - Aviation, BCTP
- Brazil - Armor, BCTP
- Chile - BCTP

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Future Impact
(SOUTHCOM)

Argentina Flight Simulator

Program Description:

The Argentine Army, Navy and Air Force have all received UH-1H aircraft from the U.S. via the FMS program. The density of aircraft warrant the consideration of obtaining an in-country training capability.

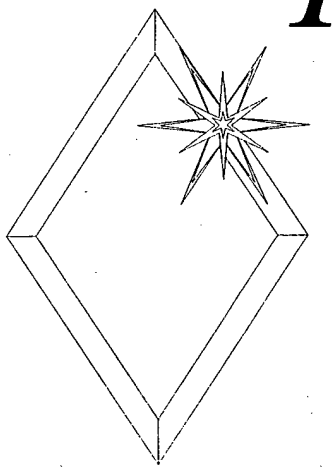


STRICOM's Role:

STRICOM has proposed a UH-1H Flight Simulator with installation, training and spare parts.

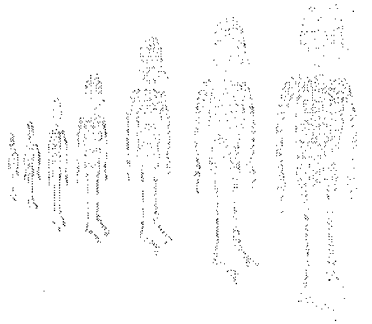
Estimated Total Cost - $1.9M

Partnering for Success



A Blueprint for Promoting
Government-Industry
Communication & Teamwork

Partnering



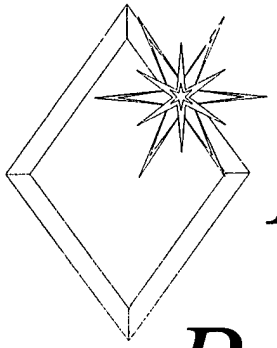
- WHAT: Process to obtain a mutual understanding of goals, improve communication and define clear process for program decisions and conflict resolution.
- HOW: Use of AMC Partnering for Success Program
- WHO: All stakeholders (e.g., contractor and government program managers, material developers, user community, etc.) who have an interest in successful contract performance.

Benefits of Partnering



Partnering...

- is where the parties form a relationship based upon teamwork, cooperation, and a shared vision for success
- focuses on accomplishing common goals and objectives
- builds trust and encourages open communication
- is a mutual commitment by the parties to improved contract performance through enhanced communication
- helps the parties eliminate surprises

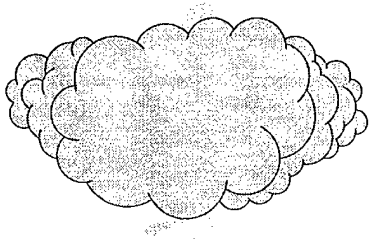


Benefits of Partnering

Partnering... (cont.)

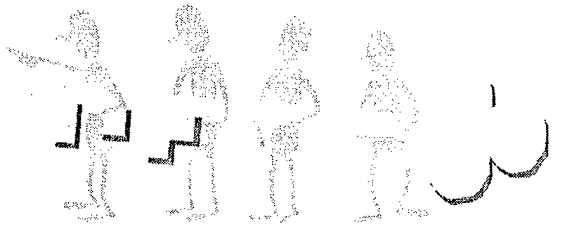
- enables the parties to anticipate and resolve problems
- avoids disputes through informal conflict management procedures at the lowest possible organizational level
- avoids litigation through the use of Alternative Dispute Resolution
- generates harmonious business relations
- focuses on the mutual interests of the parties

Partnering Is NOT:

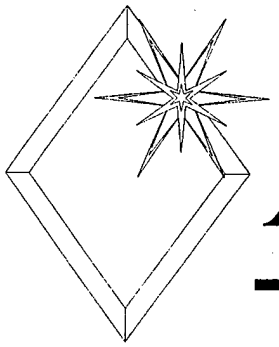


- Mandatory
- A panacea
- A one-way street
- Successful without total commitment
- A waiver of the parties' contractual rights
- Inconsistent with any acquisition-related statute or regulation
- Contrary to the government's or contractor's business interests

Elements of Partnering



- Preparation
- Commitment
- Inclusion of Appropriate Parties
- Clear Definition of Roles
- Use of the Partnering Tools
- Reinforcement and Follow-up



AMC Model Partnering Process

Step 1: Getting Started

Step 2: Communicating with Industry

Step 3: Conducting the Workshop and Developing the Charter

Step 4: Making It Happen

Step No. 1

Getting Started

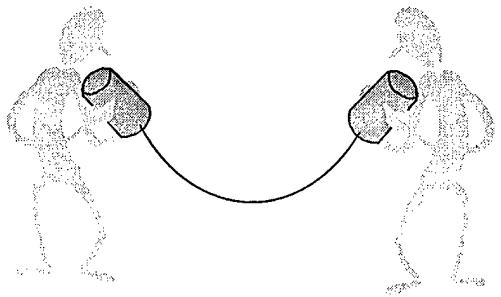


- Making the Commitment
  - Senior management
  - Program Stakeholders
  - Empowerment of Participants
  - Designation of "Champions"

Step No. 2

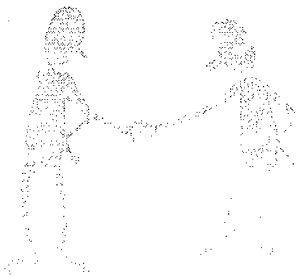
Communicating With Industry

- Extending the invitation to Partner
- Securing a Mutual Agreement to Partner



Step No. 3

Conducting the Workshop and Developing the Charter

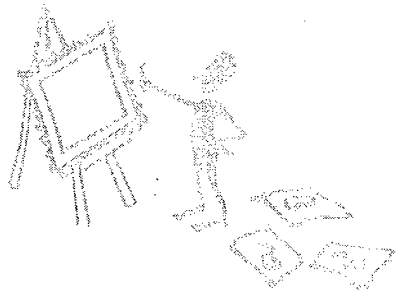


- Selecting a Facilitator
  - Role of the Facilitator
- Preparing for the Workshop
  - Selecting the Participants
  - Reviewing the Contract
  - Choosing a Workshop Site
  - Coordinating with the Facilitator

Step No. 3 (cont.)

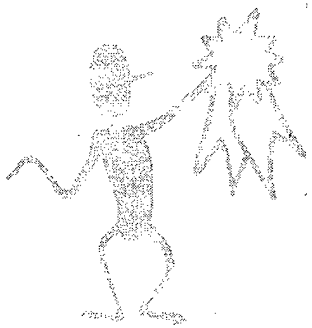
Conducting the Workshop and Developing the Charter

- Conducting the Workshop
  - Team-building
  - The Charter or Agreement
  - Problem Resolution
    - Rocks in the Road
    - Conflict Escalation
    - Alternative Dispute Resolution
  - Measuring Success

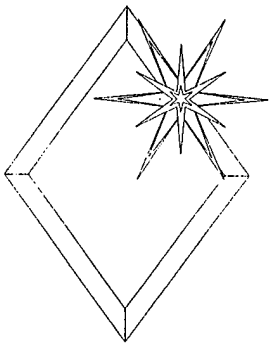


Step No. 4

Making It Happen

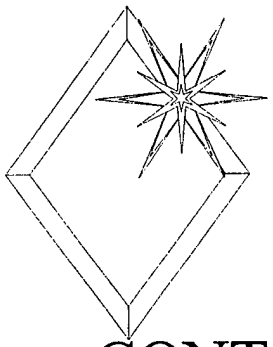


- Following Procedures
- Active Champion Involvement
- Continuous Communication
- Identification of Problems and Joint Problem-Solving
- Periodic Reviews
- Measure Success
- Reinforcement



Overarching Partnering Agreements

- Senior management formalize commitment to use partnering process in performance and administration of subsequent contractual efforts
- Use four step process discussed previously



INTERESTED?

CONTACT:

HARLAN GOTTLIEB

STRICOM CHIEF COUNSEL

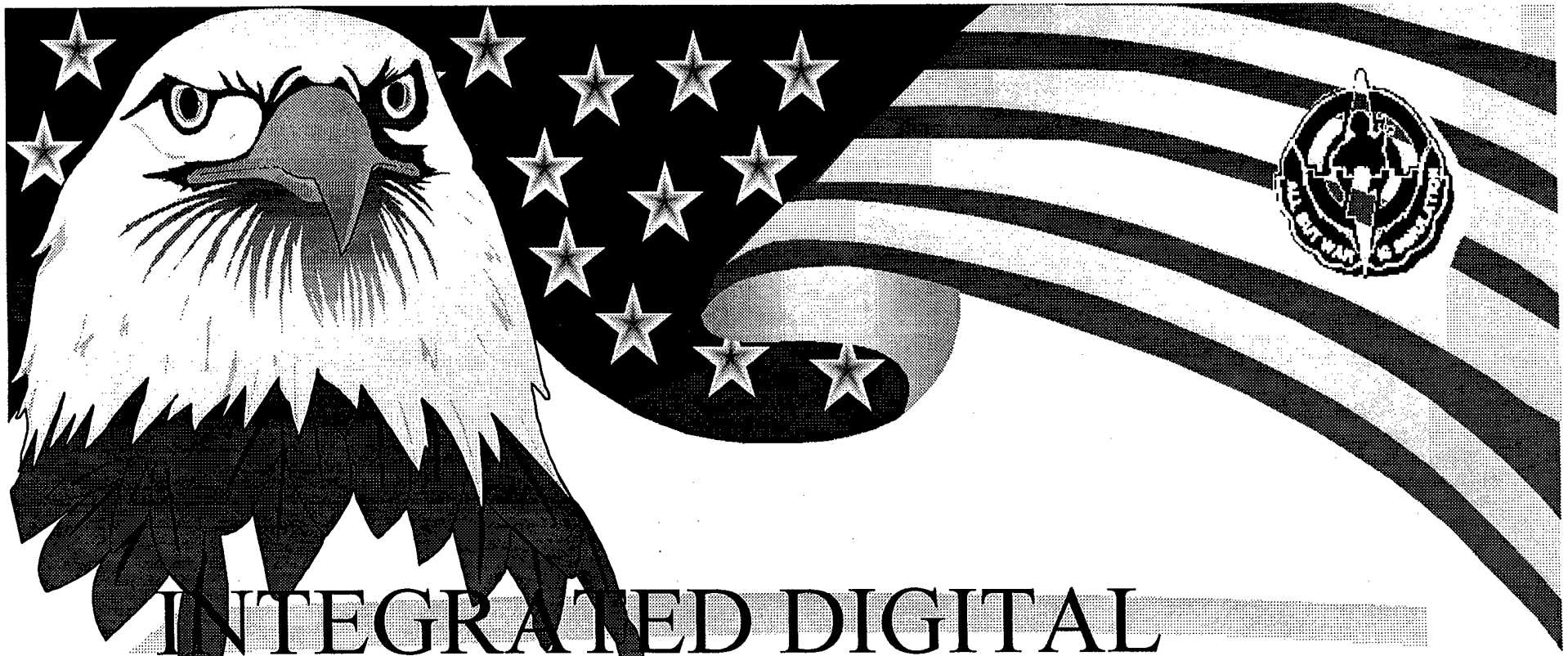
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INTEGRATED DIGITAL ENVIRONMENT:

STRICOM'S PATH TO PAPER-FREE ACQUISITION

Virtual Enterprise & the Electronic Commerce Marketplace

Outline

- STRICOM IDE STRATEGY
- DEFINITIONS
- OSD POLICIES
- PROJECT GOALS
- CURRENT INITIATIVES
- FUTURE OPPORTUNITIES
- SUMMARY
- TPA DEMO

Strategy

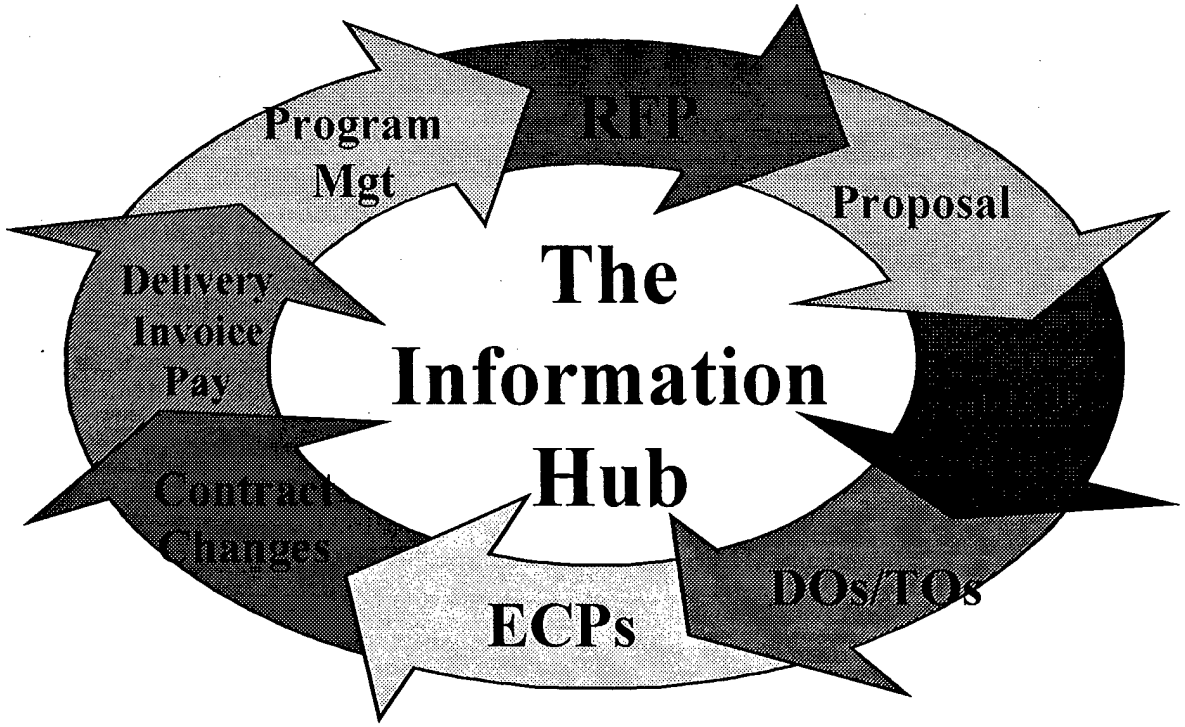
- Leverage EC/CALS/IDE Technologies to achieve Paper-Free Acquisition

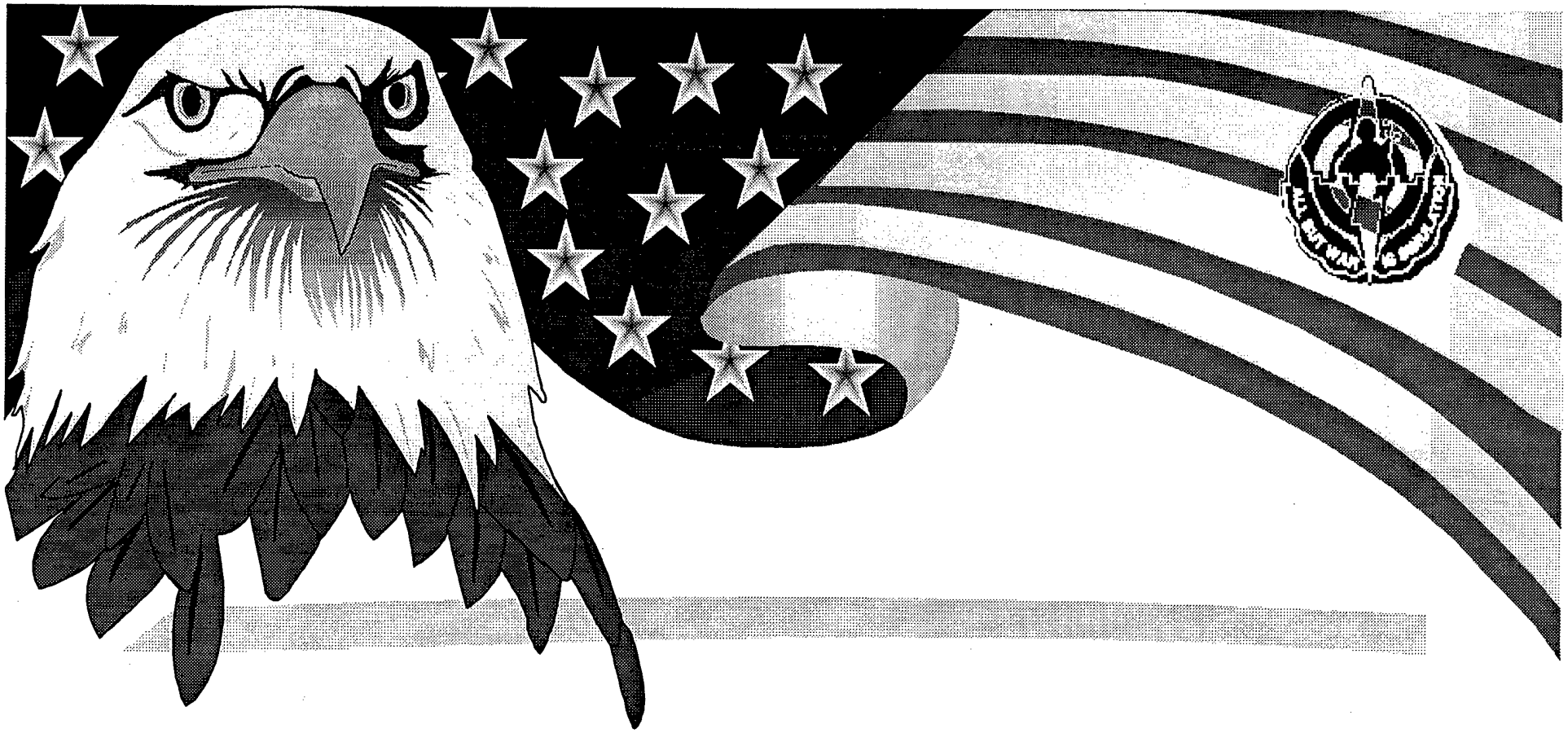
- Develop STRICOM vice Project-Specific Solutions

Philosophy

To combine EC, CALS, IDE into a single project to achieve Paper Free Acquisition.

EC and the Contract Life Cycle





DEFINITIONS

Virtual Enterprise & the Electronic Commerce Marketplace

Electronic Commerce

- The Use of Electronic Technologies for the Exchange of Business and Technical Data to Achieve an Integrated Government/ Industry Data Environment in order to Streamline and Improve Business

October 24, 1861



Pony Express

Integrated Digital Environment

- Cross-functional integrated digital information infrastructure to support the entire acquisition program team: PMO, prime, subcontractors, vendors, suppliers, support agencies and end users

Computer Aided Acquisition & Logistics Support



- The storage and exchange of digitized technical information
- Commercial Standards based

Contractor Integrated Technical Information Service

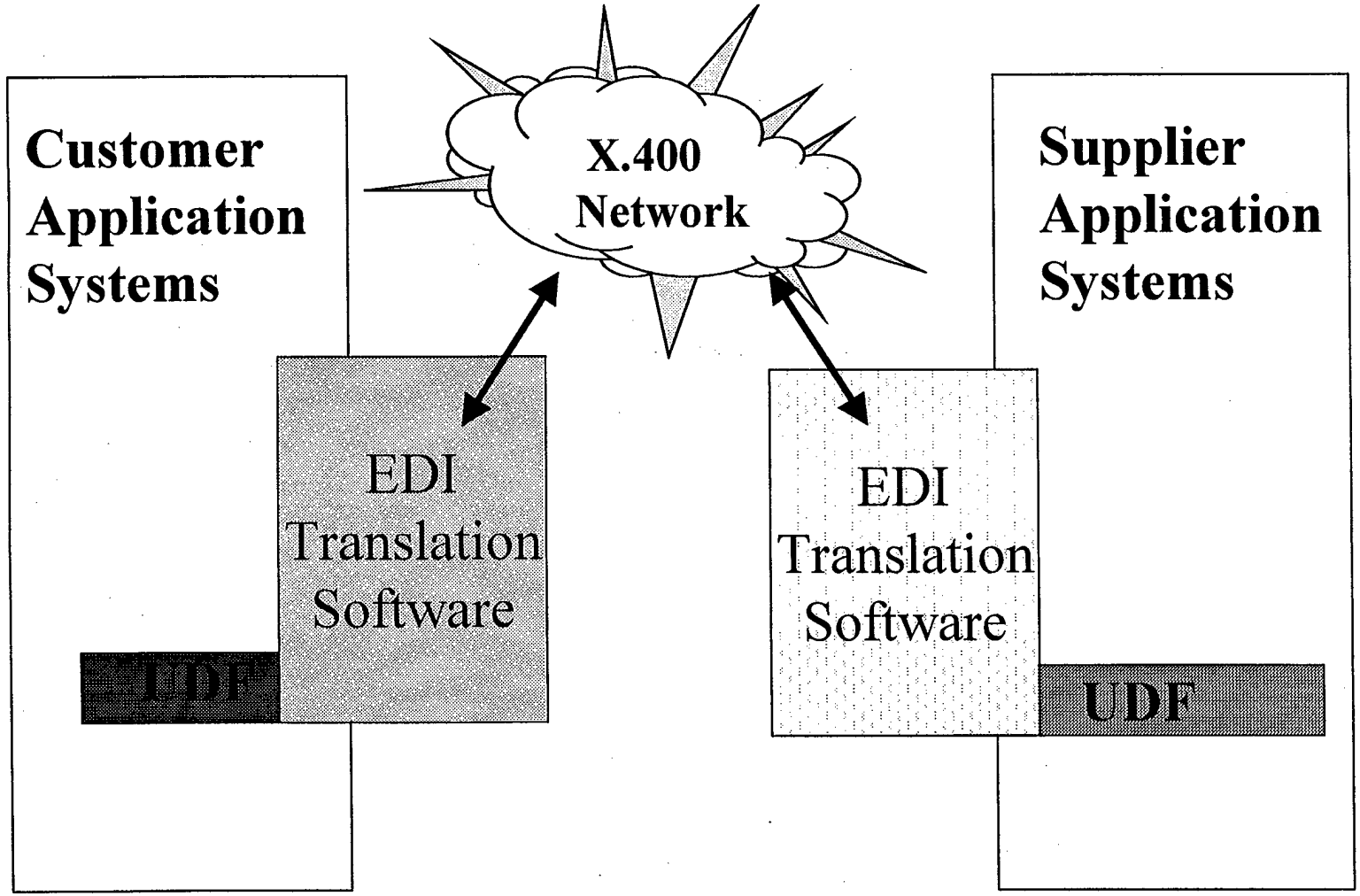


- On line, day to day information required by the joint IPT to accomplish project goals.
- Traditionally contract specific.

Electronic Data Interchange

- Computer to computer exchange of routine business documents (data) in a standard format between trading partners
- Commercial standards:
  - ANSI X12
  - ISO EDIFACT

How Does EDI Work?

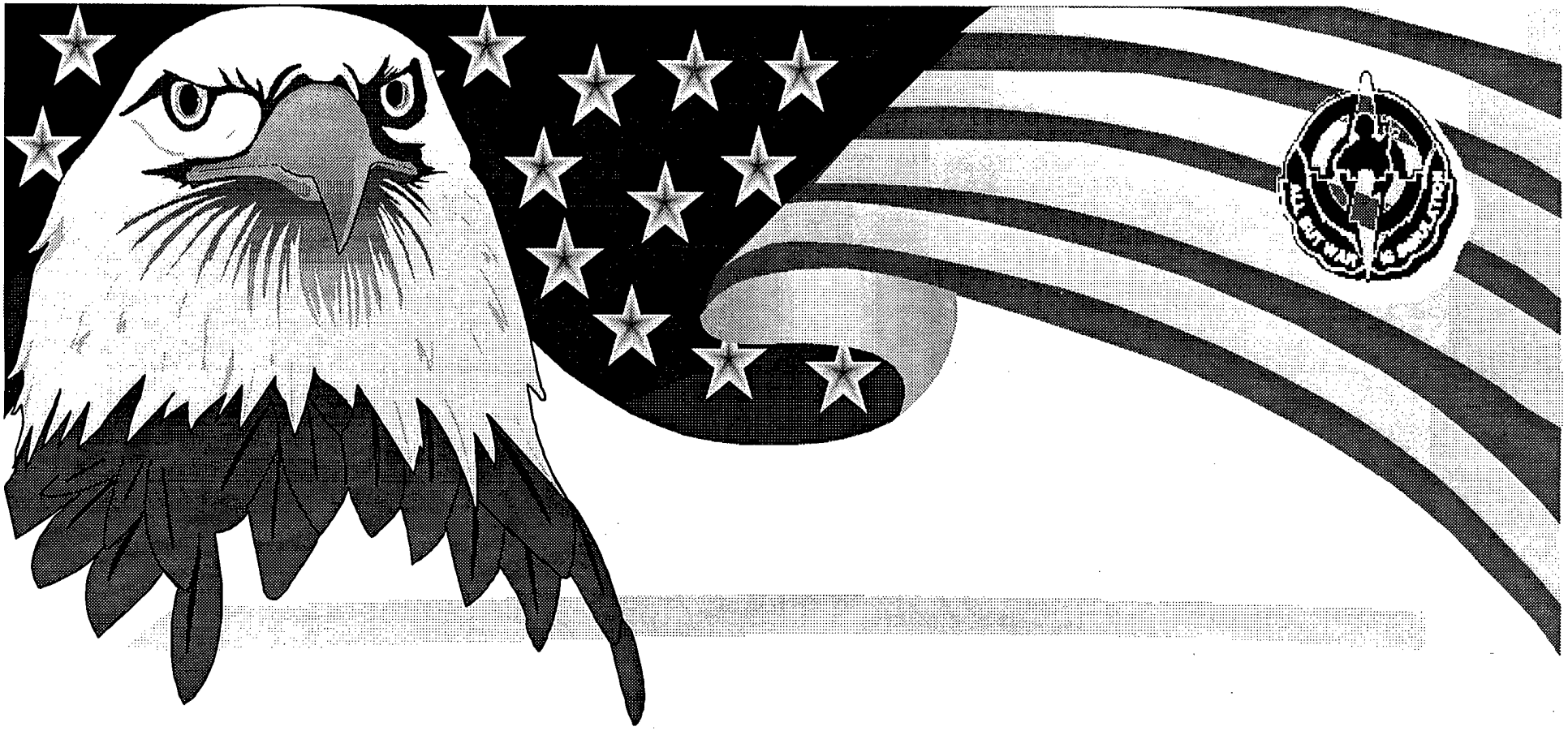


Policies

- DEPSECDEF MANDATES:
  - Paper-Free Procurement JAN 2000
  - Paper-Free Acquisition
    - ACAT I/II JAN 2002
    - ACAT III JAN 2006

Goals

- Implement OSD/Army Policies for Paper-Free Acquisition without adverse impact to project schedules and cost.
- Reduce individual project costs through corporate STRICOM investment in EC/CALS/IDE
- Business Process Re-Engineering & Streamlining



CURRENT INITIATIVES

Virtual Enterprise & the Electronic Commerce Marketplace

Task Package Automation (TPA)



- Electronic development, routing, approval, storage of procurement task package
- Benefits: BPR, reduced ALT
- Status: In production, training in process
- Interface with SPS approved, funded by NAVAIR

TPA (cont)

- Phase II Enhancements (FY99):
  - WWW capability
  - RFP development
  - SOO/SOW
  - Commercial Items (FAR PART 12)
  - DD254 (Contract Security Classification Specification)
  - SOMARDS Interface
  - EDI Transactions (Interim to SPS)
  - Automate R Directorate package login
  - Electronic Signature
  - SETA Front-End Processor

Proposal Evaluation Tool (PET)

- Automated source selection software for paperless environment
- Benefits:
  - Time and manpower reductions >85%
  - Produces forms, charts, summaries (PER)
  - Provides audit trail
- Status: in production
  - Enhancements under evaluation
- New source selection facility under construction

IDE Transition Plan

- ACAT I/II PM plans for transition to digital operations due to SARDA 4/30/99
- Status: In process for PMs WARSIM & CATT (CCTT)
- Will provide foundation for ACAT III projects' IDE plans (TBA)

Government Concept of Operation

- Describes STRICOM's paper-free interface to our Trading Partners, required Appendix to each RFP
- Benefits:
  - Provides guidance to IPT and Offerors
  - Reduces individual project overhead for data exchange, eliminates customized data interfaces
  - Results in earlier data exchange
- Status: Published 1/26/99

Trading Partner Outreach

- Electronic Commerce Workshops: Educate & inform TPs regarding STRICOM's transition to Paper-Free Acquisition
- Electronic Commerce Resource Center- Largo, FL
- STRICOM EC Web Site- **http://www.stricom.army.mil/STRICOM/ELECTRONIC_COMMERCE/**
- EC Pilot with LMIS
  - Electronic Contracting
  - Cost Schedule Reporting
  - Enterprise CITIS

Electronic Data Interchange

- Contractor Logistics Support Data
  - ANSI X12 846-Inventory Inquiry/Advice
  - Input to LogARMS
- Cost Schedule Reporting
  - ANSI X12 839-Project Cost Reporting
  - Input to WINSITE
- Electronic Contracting
  - ANSI X12 850/860-Delivery Orders/Mods
  - Output from TPA (SEP 99)

Enterprise CITIS

- Replace contract specific CITIS with shared on-line service
  - JCALS, WWW based
  - Accommodates small, medium, large vendors, subs and other TPs (DCMC,DCAA,DFAS)
  - Reduces project overhead & learning curve
  - Provides for earlier data exchange
- Prototype target- Spring 99

Joint Computer Aided Acquisition & Logistics Support (JCALS) System

- Interoperable Integration Platform
  - Global Data Management System -provides access to geographically distributed data, info broker
  - Workflow manager
  - Electronic (Document/Object) Library
  - DoD Enterprise Security Solution

JCALS (cont)

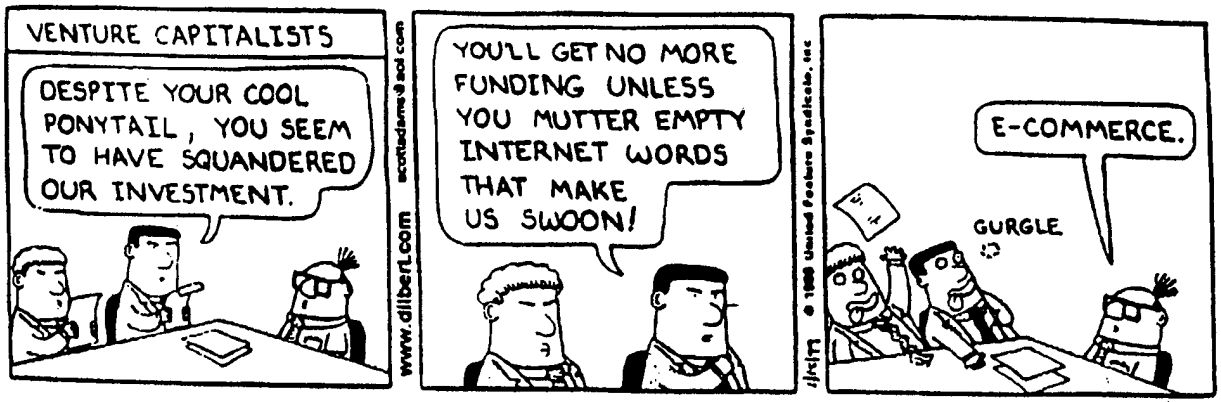
- Target Delivery: July/August 99
- Planned uses:
  - Enterprise CITIS
    - JCALS prototype in LMCO Solutions Center
  - Integrated Data Environment
  - ECP Processing
  - Business Process Re-engineering
- Training: Spring/Summer 99

Future Opportunities

- Electronic MIPRs
- Electronic DD250's
- Engineering Data Technical Tool Kit
  - Engineering IPT Engineering XXI Team (EXXIT) findings, April 1997
  - Electronic ECPs
  - Access to Digital Drawings
- Electronic Signature
- Your requirements

Summary

- STRICOM is on track and well-positioned to meet OSD Paper-Free Goal
- Emphasize individual Trading Partner Outreach and Training to meet mandatory paper-free dates



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Training Systems USAF Perspective

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Outline

- Training Systems Product Group
- Today's Systems
- DMT
- Road Ahead

TSPG Organization

Product Group Manager

Col Larry Skapin

AFRL/HEA	ASC/YW	OO-ALC/~~LIR~~ (YW)
Col Straw / LtC Carr	**Col Skapin / Mr. Miller**	**Col Adamcik / Ms. Gay**



Programs

Program	SPD	DAC/PEO	User
C-17 ATS	C-17	AFPEO/AT	AMC
C-17 MTS	C-17	AFPEO/AT	AMC
C-130 H2/H3	C-130	WR-ALC/CC	AFRC, ANG
C-130 Landing Gear	C-130	WR-ALC/CC	AMC, AFRC
C-141 ATS	C-141	WR-ALC/CC	AMC, AFRC, ANG
JSTARS FCT	JSTARS	AFPEO/WS	ACC
AWACS SRTS	AWACS	AFPEO/WS	ACC
AMC Upgrade		ASC/CC	
AUE	YW	ASC/CC	AMC, ACC
VUE	YW	ASC/CC	AMC
C-130J ATS	C-130	AFPEO/AT	AMC, AFRC, ANG

Programs (cont'd)

B-1B	B-1	AFPEO/FB	ACC
F-16 UTD (USAF)	F-16	AFPEO/FB	ACC, ANG, AETC
F-16 CAS	F-16	AFPEO/FB	ACC, AETC
IVACC	B-1, B-2, F-15	ASC/CC	ACC
F-16 FMS (Korea)	F-16	SAF/IA	Allies
(Bahrain)			
(Jordan)			
(Egypt)			
(Taiwan)			
(Turkey)			
F-16 MLU			
A-10	A-10	SM-ALC	ACC, ANG, AFRC
F-16 WTT	F-16	AFPEO/FB	ACC
F-16 MTD	F-16	AFPEO/FB	ACC, AETC

DMT Programs

DMT F-15C	ASC/YW	ASC/CC	ACC, ANG, AFRC
O&I	ASC/YW	ASC/CC	AMC, AETC
AWACS	ASC/YW	ASC/CC	
F-16 Blk 50	ASC/YW	ASC/CC	
C-5	ASC/YW	ASC/CC	

Programs (cont'd)

E-3 ATS, Maint Trainers,Mis Sims	AWACS	AFPEO/WS	ACC, AETC
E-8 Maint Trainers	JSARS	AFPEO/WS	ACC, AETC
T25 SECT	YW	AETC	ACC, AFSOC, AETC
MTSS/SOF CDF	C-130	HQ USSOCOM	AFSOC/AETC
KC-10 ATS	KC-10	OC-ALC	AMC
KC-135 ATS	KC-135	OC-ALC	AMC
C-5 ATS	C-5	SA-ALC/CC	AMC
B-52	B-52	OC-ALC	ACC
RC-135	KC-135	OC-ALC	ACC
T-37	SA-ALC/LF	SA-ALC/CC	AETC, FMS, Allies
T-38	SA-ALC/LF	SA-ALC/CC	AETC, FMS, Allies
T45 UNTS	YW	AETC	AETC
C-130 ATS	C-130	WR-ALC	AMC, AETC
F-15C/D	F-15	AFPEO/FB	ACC/ANG/PACAF
F-15 E	F-15	AFPEO/FB	ACC/PACAF/USAFE
F-15 RSAF	F-15		RSAF
F-16 WST	F-16	AFPEO/FB	AETC, ANG
T40 IFT (organic only)			AETC
Air Combat Trng Sys	AAC/WRR LtC Jannazo	AAC/CC	ACC,AFMC,USAFE
(Depot/Contract Repair only)			PACAF,ANG,AFRES
			AETC, Navy
Target/Strafe/Missile Scoring		OO-ALC/CC	ACC,ANG,PACAF,
			USAFE,AFRES
Physiological	YW	OO-ALC/CC	ACC,AFMC,PACAF,
(organic only)			USAF/SG,AETC
			USAFE,Space Com

Y2K

- 30 Systems in AFASI
- Today
  - 3 certified compliant
  - 13 certified as non-compliant but operationally acceptable
  - 9 not completed (2 awaiting GO signature)
  - 1 development
  - 4 decommissioned
- All systems will be certified by Dec 99

Challenges
Current Systems

- Old Aircraft = Old Training Systems
- Parts Obsolescence
- Technology Impacts
  - Computers
  - Visual Systems
- Student Expectations

Work On the Horizon

- C-130J
- C-130 AMP/C-130X
- Additional DMT
- F-16 FMS Sales
- Replace/Modify Existing Systems

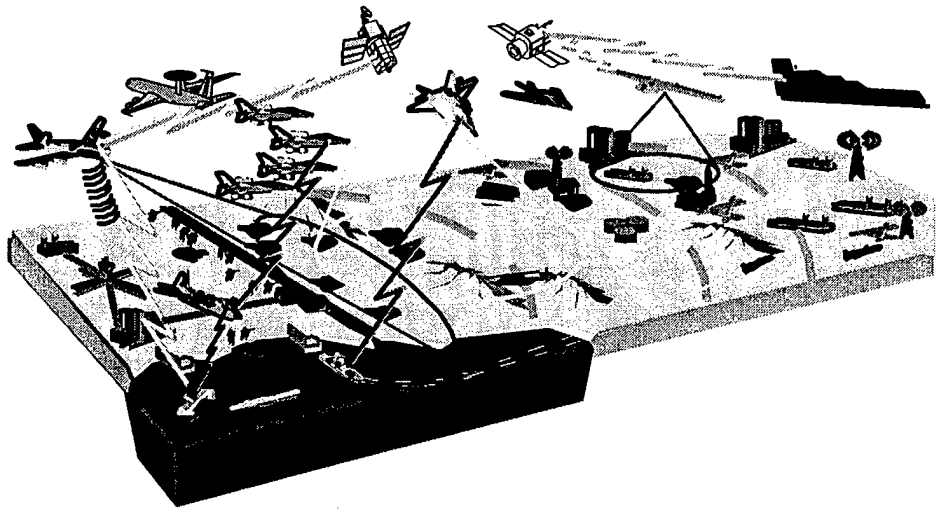

DISTRIBUTED
MISSION
TRAINING

Distributed Mission Training
"Training for the EAF"

- **Team training in high fidelity simulators**
  - **Small team training via local networking-- F-15C four-ships**
  - **Full mission rehearsal via networking of geographically dispersed training systems-- F-16/F-15C/AWACS**
- **Realistic, high synthetic environment**
  - **High fidelity visual systems**
  - **Accurate, high fidelity threat simulations**

Requirement -- Team Training

- Insufficient exercise $$
- Reduced flying time
- Security issues
- High PERSTEMPO, OPSTEMPO
- Safety
- Airspace availability
- Restricted weapons/EW envelopes
- Environmental concerns
- Complex rules of engagement



Focus: Team training for aircrews to compensate for limitations

ACC DMT Requirements Evolution

ACC/CC's: "Train the way we fight" (Jan '97)

- Two & Four-Ship of Aircrew Training Devices in Every Wing
- Linked Together in a Network with C4I assets
- Implement Distributed Mission Training (DMT) for ACC -- Start with F-15C
- Pay for it by off setting flying hours

ACC DMT ORD 009-93-I-A (Oct '97)

- Linked, mission-level simulation training
- High fidelity simulators at each wing for all MDS aircraft
- Full training system environment

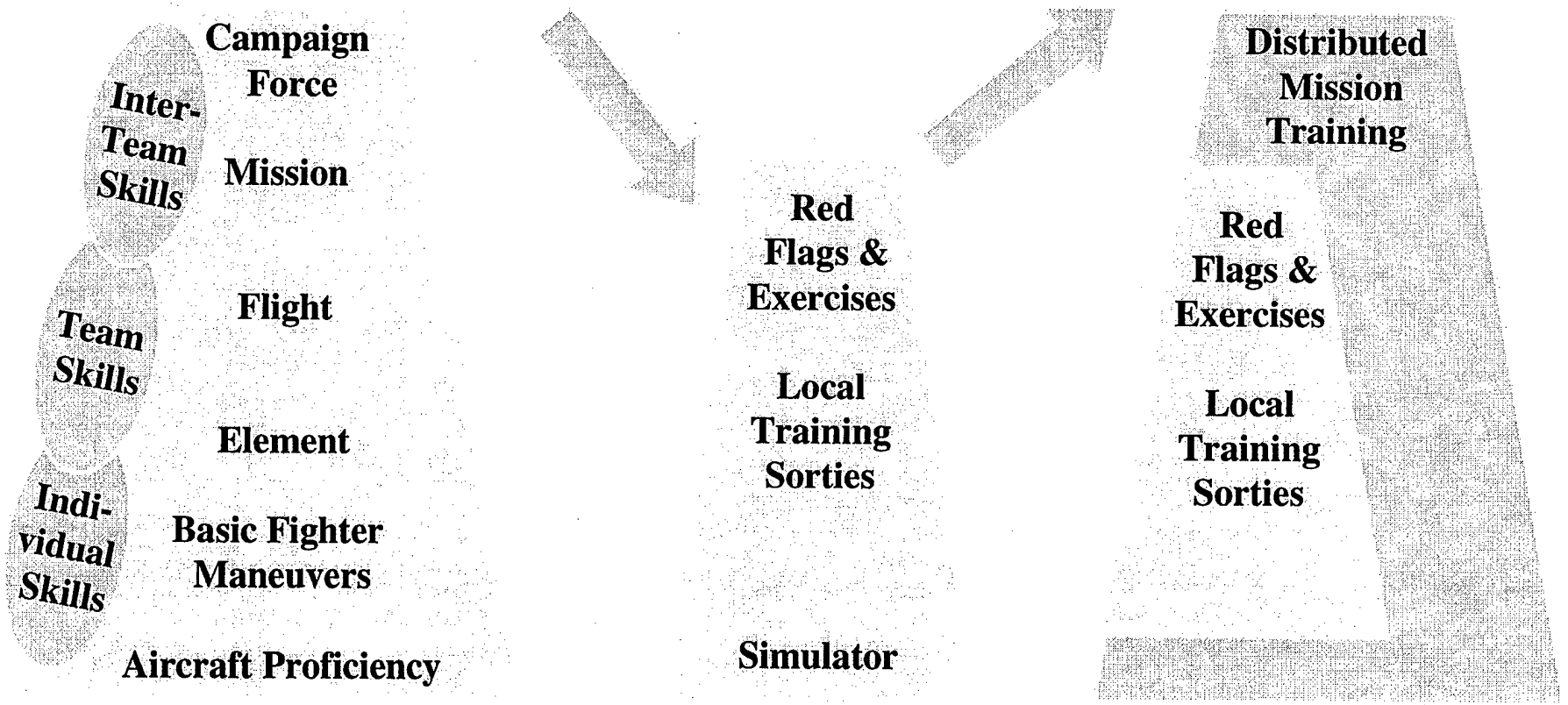
ACC/CC: (Jan, Nov, Dec 97)

- "Link AWACS to F-15C" --"F-16 follows within 1 year"
- "Robust capability by FY06"
- "Focus on unit training"
- Grow into "j"oint Synthetic Battlefield

MTC TRAINING FOCUS

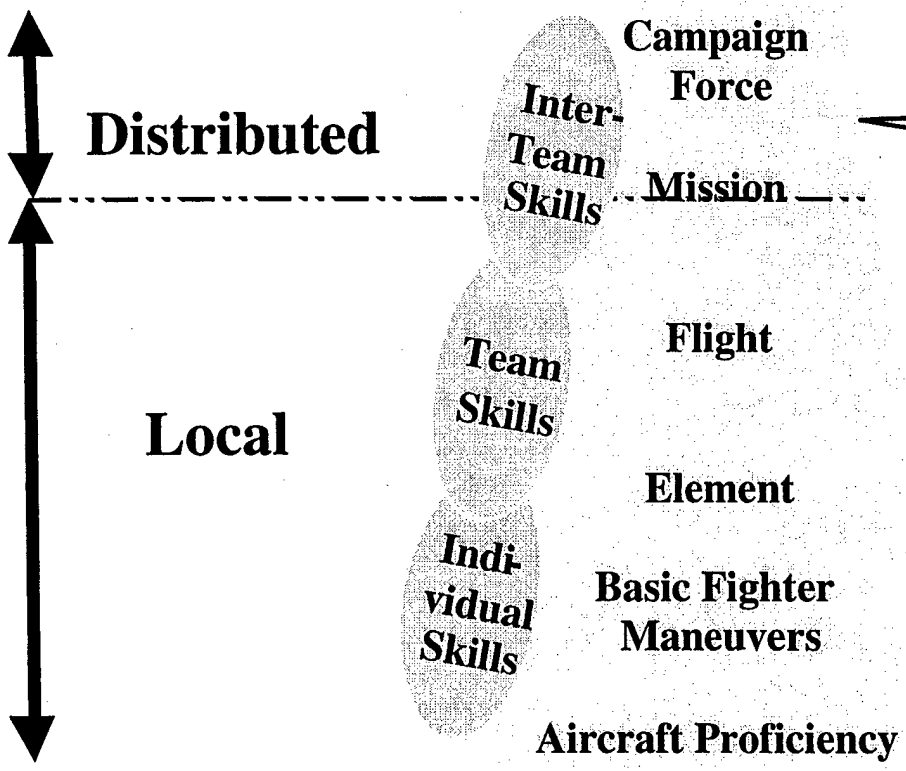
Cost, safety, lack of adversary systems, airspace and range restrictions, and real-world commitments limit current combat skill training.

MTC training will focus on those combat skills: inter-team; team; and individual skills that are limited by current resources.



MTC TRAINING FOCUS

DMT training will focus on those combat skills: inter-team; team; and individual skills that are limited by current resources.



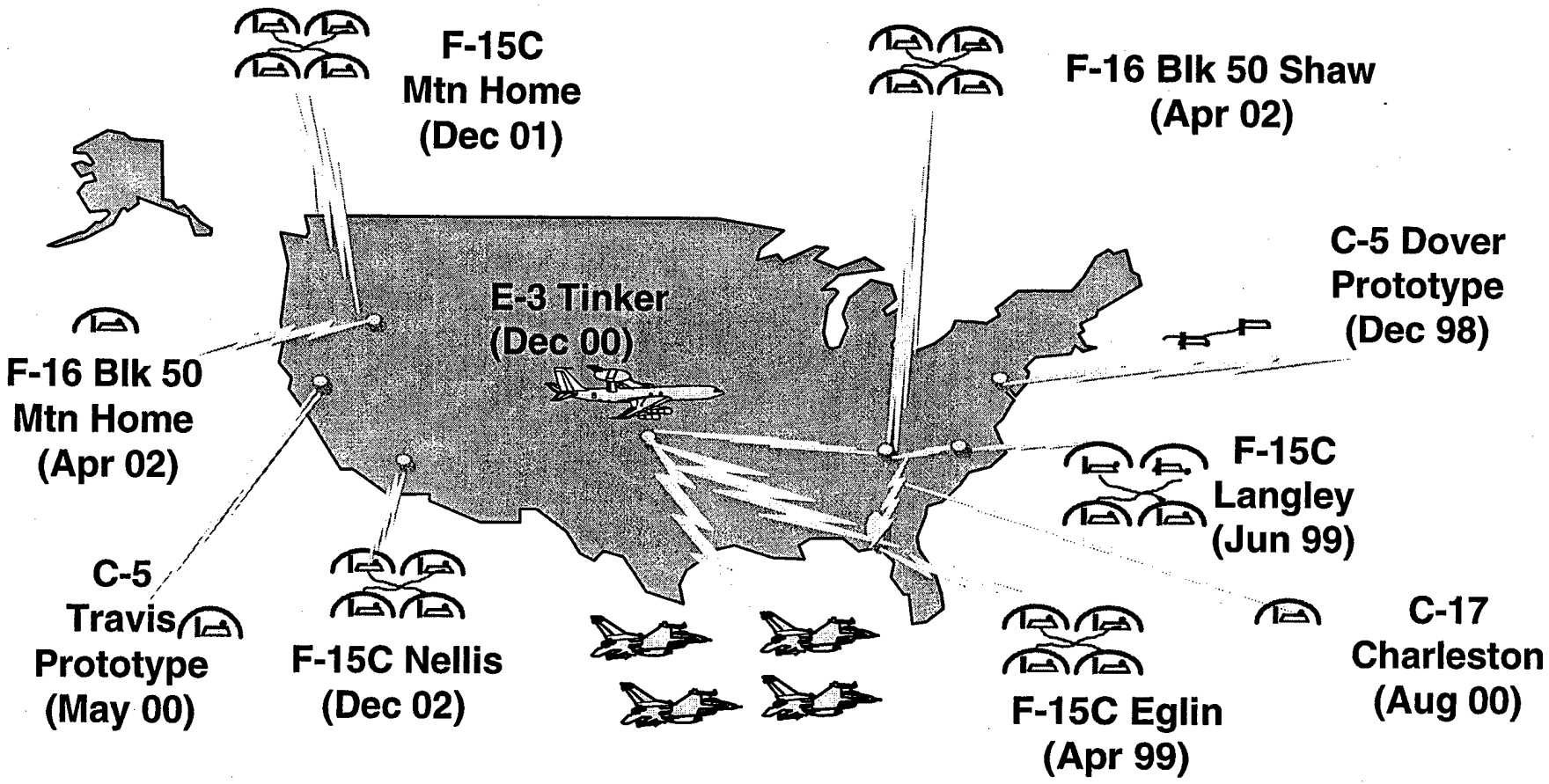
Full Mission Rehearsal 0-5%

Distributed Training with other units-- 20%

Trained in local multi-ship 40-50%

Trained in single simulator 20-30%

Distributed Mission Training
(Funded Efforts Only)

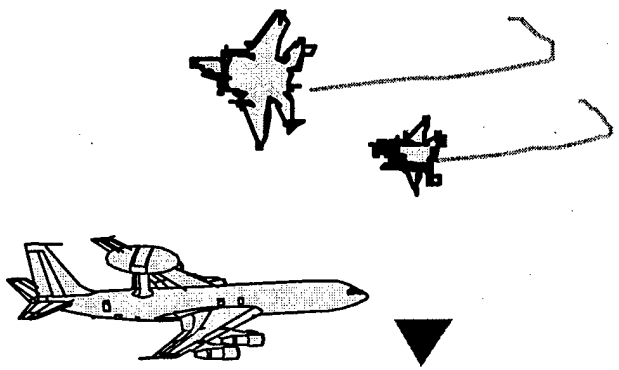


Networked Live, Virtual and Constructive Team Training Events

DMT Capability Evolution

FY99-01	*FY02-FY04*	*FY06*	*FY08-FY10+*

Initial Capability



F-15C
AWACS
F-16 (40/50)

Fighter Battle Management

C-5
B-1
C-17
A-10
JSTARS
KC-10
C-130
KC-135

Package and small Composite Force

"Robust" Capability

F-16(30)
B-2
F-117
F-15E
F-22
Other AMC
Other C2

Package and Air Expeditionary Force Employment



Common Synthetic Battlespace

Mission Rehearsal Capability

Evaluate, Validate, Train, Expand Service . . .

COMMERCIAL ACQUISITION

- Commercial Training & Simulation Services (CTSS)
  - Government buys Service vs. Hardware
  - Contractor owns hardware and operates the facility
- Award term incentives high performance level of service
- Concurrency "priced in" without ECPs/CCPs
- Technology upgrades included in price of service
- Long term (up to 15 years) requirements type contract

DMT Acquisition Strategy

- Fully leveraging the Revolution in Business Affairs: *from Defense Reform Initiative, the 912 Report, USD(A&T) Acq Reform focus....*

~ Greater civilian/military industrial integration

〉 Commercial business practices

〉 Long term business relationship

〉 Performance based contract

~ Shift resources from support to modernization/ combat *

〉 Buy services instead of products

〉 Outsource noncore responsibilities

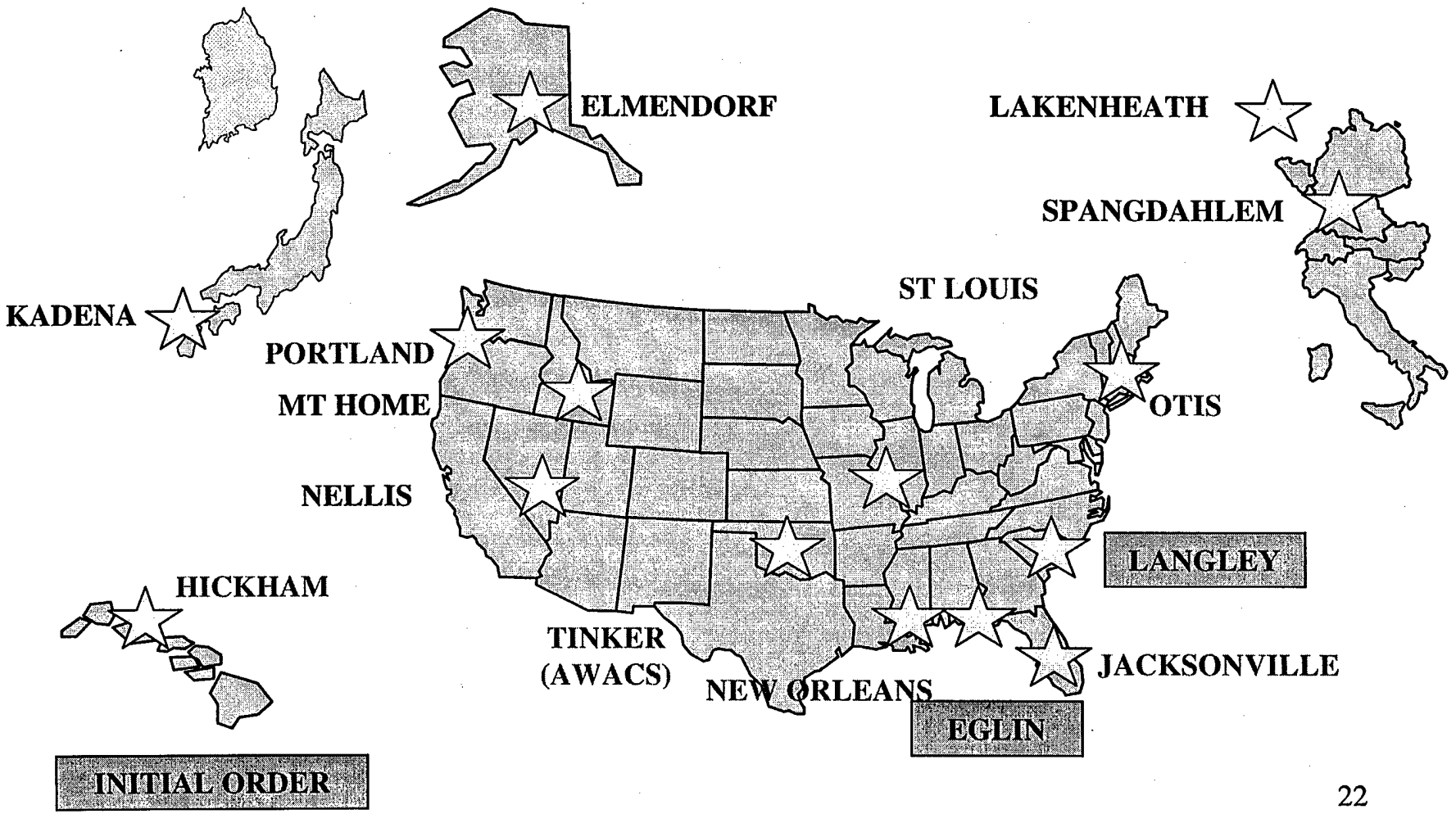
〉 Streamlined acquisition process, smaller program offices

Source: Defense Reform Initiative 12/97, 912 Report, DUSD(A&T) speeches

DMT F-15C

- Contractor: Boeing (McDonnell-Douglas)
  - Indefinite Delivery Requirements, FFP Contract
  - Award Term--maximum 15 years
- Initial Order:
  - Eglin AFB: Apr 99
  - Langley AFB: Jun 99
  - Training Service Evaluation to COMACC: Dec 99
- 12 Additional Site Orders: TBD

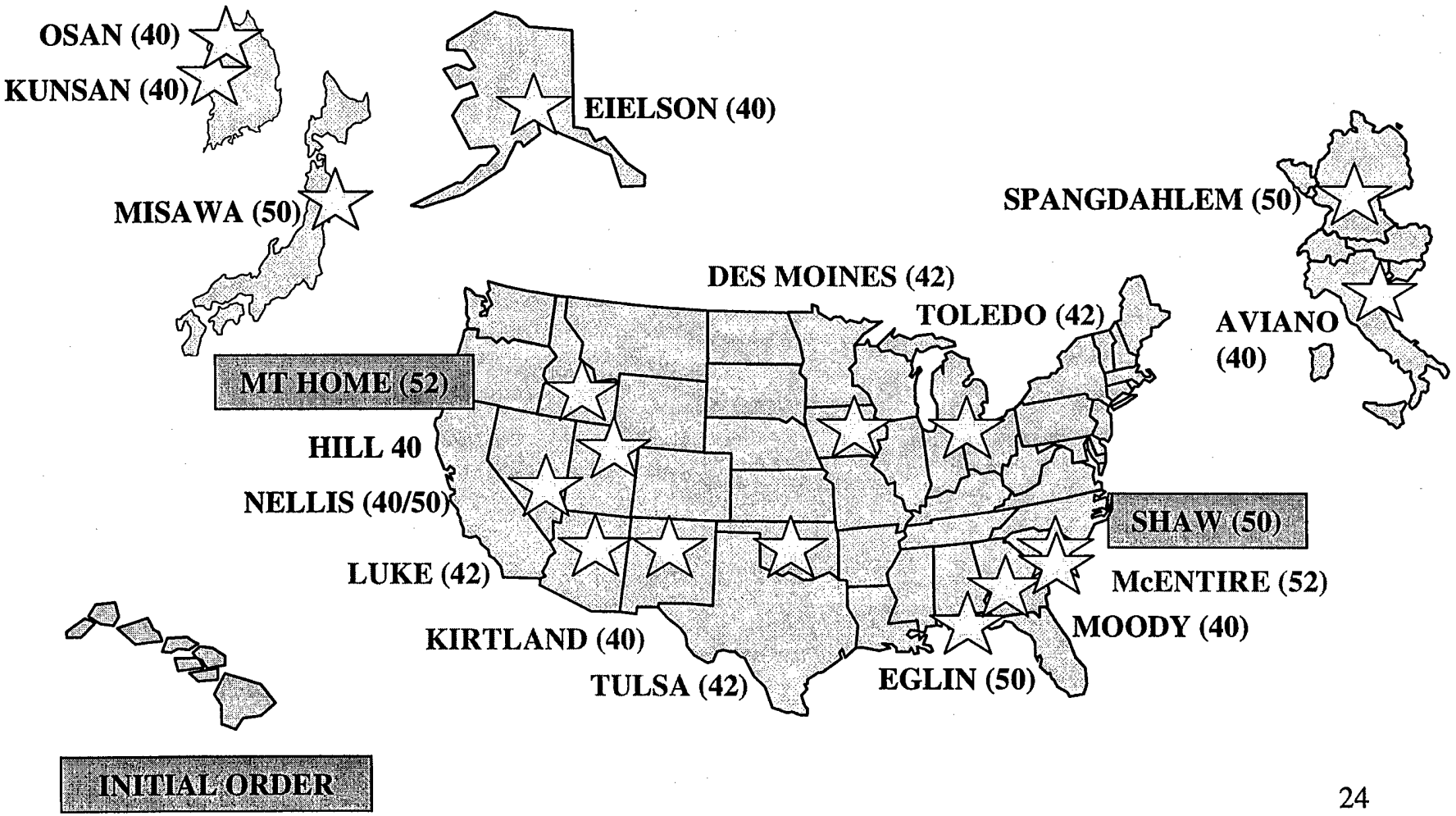
F-15C MTC Locations



DMT F-16 BLOCK 40/50

- Contractor: In Source Selection
  - IDIQ Requirements, FFP Contract
  - Award Term--maximum 15 years
- Initial Order:
  - Shaw AFB: Apr 02
  - Mt Home AFB: Apr 02
- 16 Additional Site Orders: TBD
- Website:
  http://www.pixs.wpafb.af.mil/pixslibr/DMTRFP/DMTRFP.asp

F-16 BLK 40/50 MTC Locations

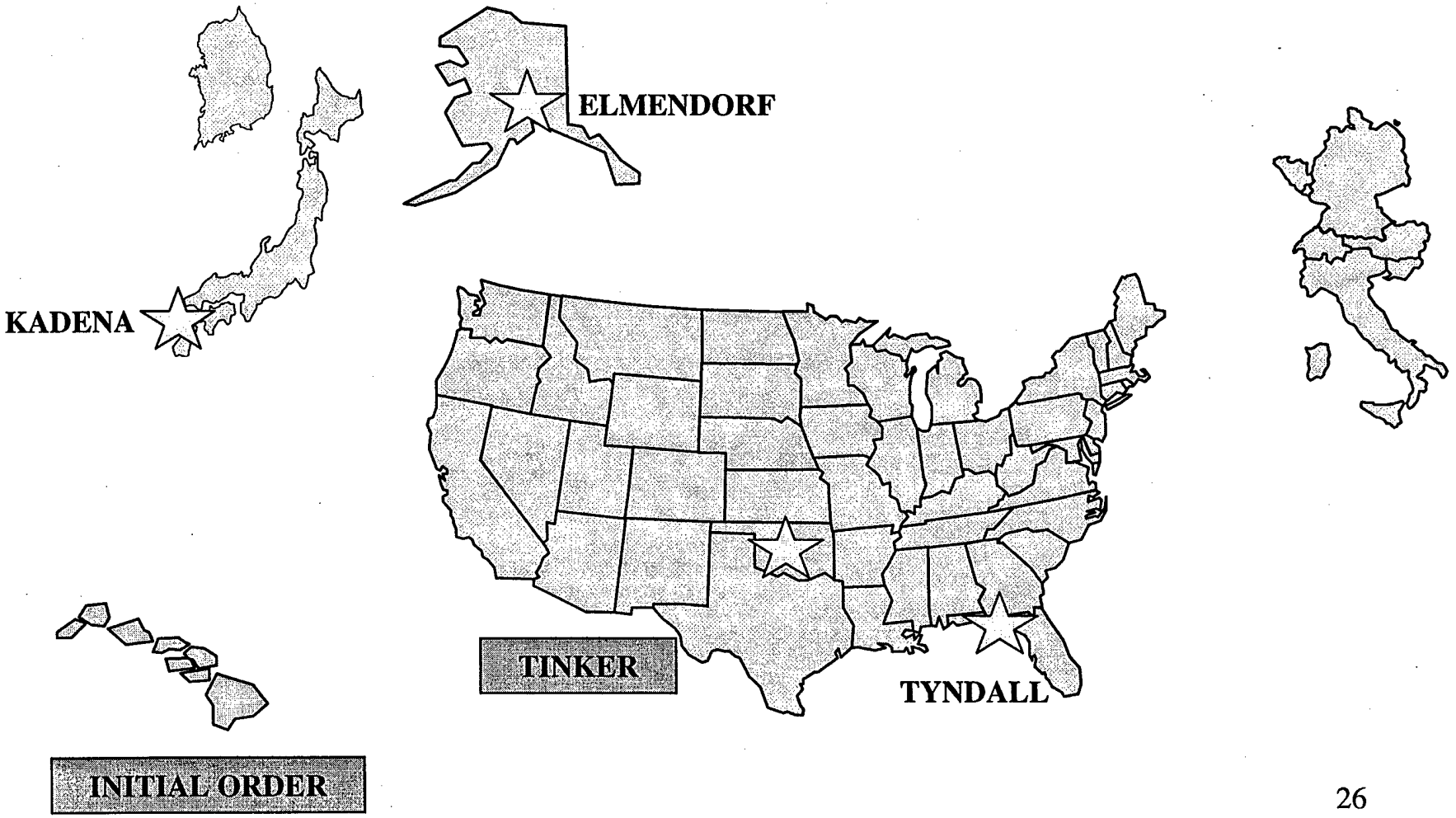


DMT AWACS

- Contractor: PLEXSYS
  - Indefinite Delivery Requirements, FFP Contract
  - Award Term--maximum 15 years
- Initial Order:
  - Tinker AFB: Dec 00
- 3 Additional Locations: TBD
- Website:

http://www.pixs.wpafb.af.mil/pixslibr/awacsrfp/awacsrfp.asp

AWACS MTC Locations



DMT OPERATIONS & INTEGRATION

- Contractor: In Source Selection
  - Two Phase Downselect
    - Phase 1 (two contractors): Jun 99
    - Phase 2 (one contractor): Dec 99
  - IDIQ, FFP/T&M/CPFF Contract
  - Award Term--maximum 15 years
- Provides network interoperability & interface requirements for all Federates
- Website:
  http://www.pixs.wpafb.af.mil/pixslibr/DMTONI/DMTONI.asp

BACK-UP

- CTSS
- TSA
- C-130J
- CUSTOMER CHART

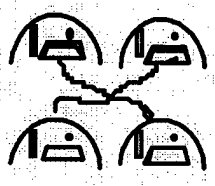
Mission Training Center

Basic building block of DMT

Brief/Debrief System

GCI Station

Full Mission Trainers



2 to 4 linked simulators
High fidelity visuals, sensors
Common Data Base
Instructor/Operator Station

Threat Stations

External Connectivity
- **HLA**
- **Distributed Training**

Combat Environment
- **Constructive Threat Models**
- **Semi-Automated Forces**

INTEL
- **AFMSS**
- **TBMCS**
- **Integration**

Mission Training Centers at every CAF Wing--full training environment

Mission Training Center Services

- **Basic Mission Training Center (MTC) Commercial Training Simulation Service (CTSS) provides:**
  - **Nominally, four networked Mission Trainers that will allow full combat tactical training**
    - **Full Field of View Visual on Fighter MTCs**
    - **Threat Stations**
    - **Brief/Debrief capabilities**
    - **Instructor/Operator Stations**
  - **8 to 10 hr/day, 5 days/week availability, surge capability**
  - **Local and long-haul network operations**
  - **Aircraft concurrency is part of the price - no ECPs**
  - **Tech insertion is included**

Future of Training Systems

- Continued Improvements in simulation
- New Training Paradigms
  - 4 ship
  - AWACS/Fighter Linkage
  - Live with simulation
- Mission Rehearsal

AMC TRAINING NEEDS/ SIMULATOR PROGRAM



BRIEFING BY:

Col Bob Meyers

AIRCREW OPERATIONS AND TRAINING

OVERVIEW

- Background
- Training Philosophy
- Industry Standard
- AMC Upgrade Standard
- Historical Utilization
- Investment Strategy
- Upgrade Program Status
- Training Transfer Goals
- DMT- A New Requirement

BACKGROUND

- 1982 Scientific Advisory Board Recommendations
  - Utilize State-Of-The-Art Training Technology
  - Make More Effective Use Of Simulation
  - Replace (Or Refurbish If Cost-Effective) With State-Of-The-Art Devices
  - Design (Upgrade) To FAR 121 Certification Standards
    - Defined In Advisory Circulars 120-40 A/B
  - Conduct Virtually All Non-Combat C-130 Training In Simulators--Only Device Capable At The Time

BACKGROUND (Cont)

- "Training In The Military Airlift Command Phase II Simulators Versus Aircraft" (1984)
- RAND Study For C-17 Program (1986)
- C-141 ATS Acquisition Contract Award (1989)
- Mobility Simulator Upgrades Combat MNS (1993)
- 4-Star Simulator Review (1993)
- Initial AMC Funding For Upgrades (1993)
- Improved Mobility Training Devices MNS (1994)
- Improved Mobility Training Devices ORD (1995)

TRAINING PHILOSOPHY

- Transfer More Flying Training To The Simulator
  - Rationale
    - Comply With Defense Planning Guidance
    - Reduce Non-Revenue Generating Flying Hours
    - Improve Aircraft Availability For Operational Missions
    - Reduce Aircraft Wear And Tear
    - Overall Reduction Of Training Costs
      - Provide Offsets For Simulator Upgrades

TRAINING PHILOSOPHY (Cont)

- Utilize Family Of Training Devices
  - Preserve WST Capacity For Pilot Currency
  - Part-Task Trainers For Training/Currency
    - Limited Pilot Currency (e.g., Air Refueling)
    - Other Crewmembers (LMs and BOs)
  - Specific Procedures Training
    - Cockpit Procedures Trainers
    - Computer Based Training

INDUSTRY STANDARD

- Airlines -- FAA Level-C
  - Experienced, High-Time Airline Pilots
  - Effectively Train Airline-Type Events
    - Award "Type Rating" Via Simulator
  - Conduct Periodic Systems Refresher
    - Log Flying Currency Primarily In The Aircraft (80 Hrs/Mos)

FAA LEVEL-C STANDARD

- Replicate Cockpit Layout-- Function & Design
  - Accurate Systems Representation, Switches, & Controls
  - Functional Systems, Switches, & Controls
  - Full-Scale Replica Of Cockpit Being Simulated
  - Instructor Controls And Seat

FAA LEVEL-C STANDARD (Cont)

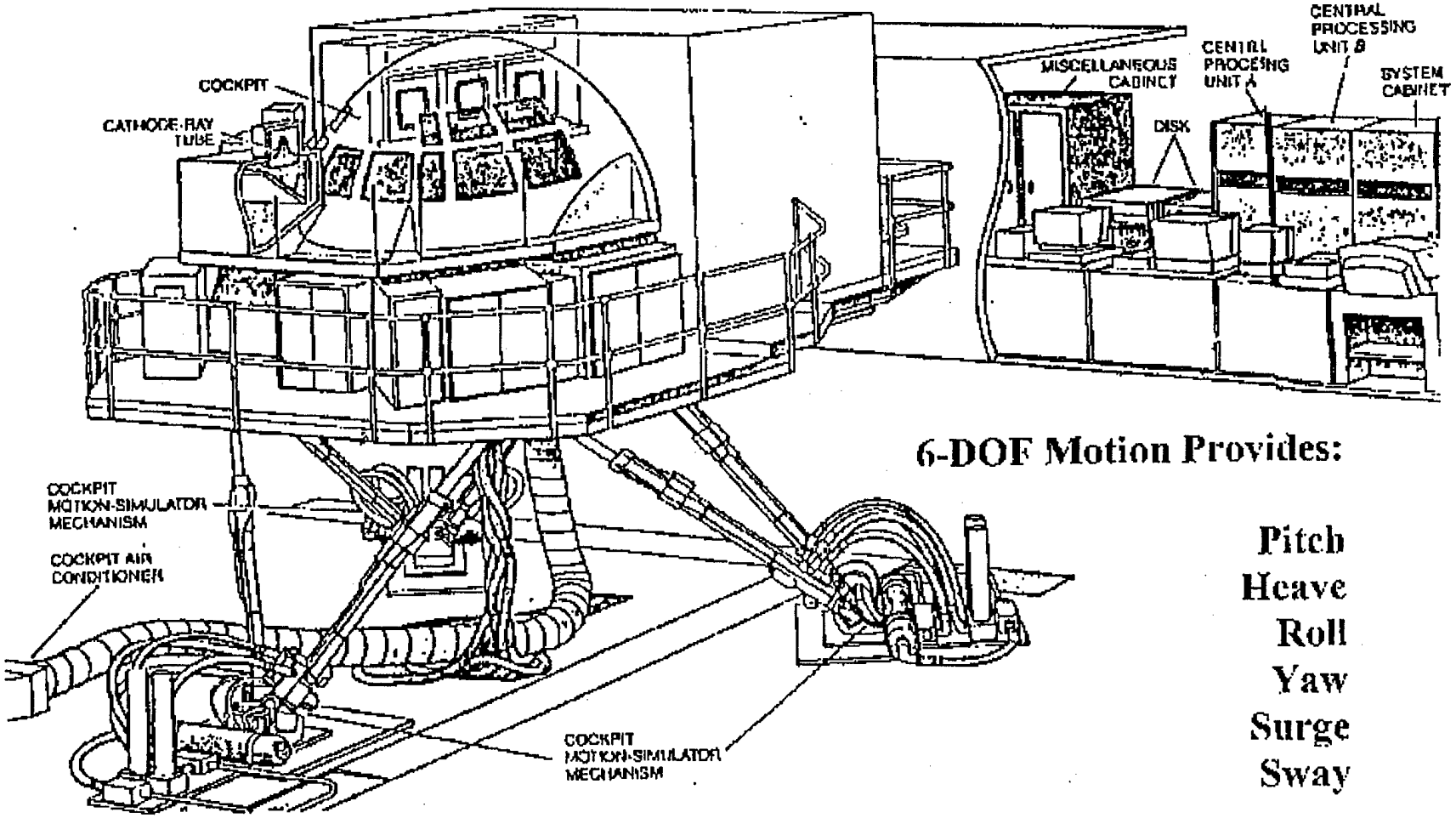
- Replicate Aircraft Performance
  - Correct Simulation Of Aerodynamics, Including Ground Effect
  - Effects Of Environmental Conditions On Aircraft
  - Control Forces, Dynamics, And Travel For Type Aircraft
  - Night/Dusk Visual System--150H x 30V Degree Field Of View
  - Motion System With 6 Degrees Of Freedom

AMC SIMULATOR STANDARD

- FAA Level C--Plus Enhanced Visual System
- Description Of Training Enhancements
  - Full-Color Day/Dusk/Night Operation
  - Medium Fidelity With Texture
  - Wide-Angle Field Of View (>200H x 40V)
  - Cross-Cockpit Viewing

GENERIC "LEVEL-C" SIMULATOR CONFIGURATION

6-DOF Motion System
CRT Visual Display System (Cutaway)



6-DOF Motion Provides:

- Pitch
- Heave
- Roll
- Yaw
- Surge
- Sway

AMC SIMULATOR INVENTORY

- Current Status -- Includes ARC Devices

Weapon Sys	Type	Quantity
C-5	WST	7
C-5	CPT	4
C-17	WST	4
C-17	CSS	1
C-17	LMPTT	3
C-141	WST	7
C-141	OFT	1
C-141	CPT	7

SIMULATOR INVENTORY (Cont)

- Current Status -- Includes ARC Devices

Weapon Sys	Type	Quantity
C-5/C-141	ARPTT	6
KC-10	WST	4
KC-10	CPT	3
KC-10	BOPTT	2
KC-135R	OFT	19
KC-135E	OFT	1
KC-135	BOPTT	2
*C-130	WST	9
*C-130	CPT	2
		82 Total

PRESENT UTILIZATION

- Refresher -- CRM, Instruments, & Aircraft Systems
- Basic Proficiency Training In WST/OFT
  - Emergency Procedures
  - Instruments (All Except KC-135)
  - Landings & VFR Patterns (C-17 & C-141)
- Mission Proficiency Training
  - Mission Profiles: C-17 WST Only
  - Receiver Air Refueling In WST & ARPTT
    - WST: C-17
    - ARPTT: C-5 & C-141

TRAINING TRANSFER

- Flying Training Events Transferred To Simulator Upon Completion Of Upgrade
  - 50% of Basic Currency
  - Selected Mission Currency
    - 50% Receiver Air Refueling
    - 50% Formation & Tanker Air Refueling

UTILIZATION FOR CURRENCY

■ Percent (%) Of Currency Logged In Upgraded Trainers

	Emer	VFR/Inst	AR	Msn
C-5/C-141				
–AC	100	50/57	50	50
–FP	100	50/57	---	50
–CP	100	50/42	---	50
C-17	100	100/80	66	50
KC-10	100	50/50	50	50
KC-135				
–AC	100	50/50	50	50
–CP	100	50/50	---	---

FLYING TRAINING TRANSFER-- AIRCRAFT TO SIMULATOR

- **Before Completion Of Upgrades**
  - FY94: 20% C-5 Training Hrs
  - FY94: 13% C-141 Training Hrs
- **After Completion Of Upgrades**
  - FY98: 33% C-5 Training Hrs
  - FY98: 19% C-141 Training Hrs
  - FY04: 19% KC-10 O&M Hrs
  - FY04: 22% KC-135 O&M Hrs

FLYING HOUR REDUCTIONS

- Flying Hour Program Reduced By $45M Per Year
  - Completion Of Active-Duty Upgrades In FY04
  - AMC "Basic Proficiency" Hours Only

Aircraft	Fly Hrs/Year	$M Per Year
C-141	1809*	10.0*
* Average C-141 Hours & Savings (FY97-01)		
C-5	1501	17.0
KC-10	2719	6.0
KC-135	5434	12.0
TOTALS	9654	45.0

FLYING HOUR REDUCTIONS

- Flying Hour Program Reduced By $36.4M Per Year
  - Completion Of Active-Duty Upgrades In FY02
  - AMC "Air Refueling/Cell Formation" Hours

Aircraft	Fly Hrs/Year	$M Per Year
C-141	1223*	6.7*
* Average C-141 Hours & Savings (FY97-01)		
C-5	908	10.0
KC-10	3301	7.3
KC-135	5621	12.4
TOTALS	8750	36.4

INVESTMENT STRATEGY

- Upgrade C-5 & C-141 First
  - Greatest Return On Investment
  - Reinvest Offsets In Other AMC Simulators
- Cash In C-5 & C-141 Flying Hours Up Front (FY94-97)
  - $100M Required To Begin Upgrade Program
    - Provide AMC "Seed Money" For 60% Of Cost
    - Air Staff Funds Other 40% Of Cost
- Accept Training Risk Until Upgrades Complete
  - Move 32% Of Basic Proficiency To Simulators
  - Move 33% Of Air Refueling Proficiency To ARPTT

DIRECTORATE OF OPERATIONS

INVESTMENT STRATEGY (Cont)

- C-5 and C-141
  - Provide More Offsets After Upgrades Complete
  - Move 50% Of Basic Proficiency To Simulators
  - Move 50% Of Air Refueling Training To The Simulator (C-5) And ARPTT (C-141)
- KC-10 and KC-135
  - Only Provide Offsets "After" Upgrades Complete
  - Move 50% Of Basic Proficiency
  - Move 50% Air Refueling & Cell Formation Training

UPGRADE PROGRAM STATUS

DIRECTORATE OF OPERATIONS

SIMULATOR UPGRADES

- 64 Of 82 Flight Simulators Require Upgrade

Weapon Sys	Type	Quantity
C-5	WST	7
C-5	CPT	4
C-141	OFT	7
C-141	ARPTT	6
KC-10	WST	4
KC-10	CPT	3
KC-10/KC-135	BOPTT	4
KC-135	OFT	19
C-130	WST	8
C-130	CPT	2
	Total	64

PROGRAM FUNDING

■ Full Funding For Simulator Upgrades ($M)

APPN 3010, BP11000/12000 (Simulators)

FY94	FY95	FY96	FY97	FY98	FY99	FY00	FY01	FY02	FY03	Total
6.8	40.2	35.7	14.0	0.0	25.3	31.5	27.0	27.1	29.9	237.5

APPN 3400,EEIC 59200 (Misc Contract Services)

FY94	FY95	FY96	FY97	FY98	FY99	FY00	FY01	FY02	FY03	Total
1.2	13.0	7.5	9.2	3.9	3.2	3.9	3.9	4.3	4.3	54.4

APPN 3300 (KC-135 Facilities)

FY94	FY95	FY96	FY97	FY98	FY99	FY00	FY01	Total
0.0	4.0	0.0	0.0	8.05	2.5	3.35	0.0	17.9

UPGRADE FLOW PLAN

	FY94	FY95	FY96	FY97	FY98	FY99	FY00	FY01	FY02	FY03
Aero Data	[Level C]									
		[Air Refuel]								
			[..... ... Integrate (45) .....]							
Computer Rehost	[C-5 (12)]									
		[....KC-135 (19)....]								
				[..... KC-10 (6) .....]						
Visual Sys	[..... C-5 (7) .....]									
			[..... KC-135 (19).....]							
			[.....KC-10 (4).....]							
Motion Sys	[KC-135 (5)]			[..... KC-135 (14) .....]						

DIRECTORATE OF OPERATIONS

C-141 SIMULATOR UPGRADE

- Completed FY96
  - Part Of ATS Acquisition (FY89-96)
- Proved Upgrade Concept To FAA Level C
- Upgraded 7 Simulators
  - Visual Systems, Motion Systems, Computer Systems, And Aerodynamics Package
- Estimated Savings Of $10M Per Year

C-5 SIMULATOR UPGRADE

- Completed FY98
- Upgraded 7 Simulators
  - Visual Systems, Computer Systems, And Air Refueling Aerodynamics Package
- Estimated Savings Of $17M Per Year

KC-135 SIMULATOR UPGRADE

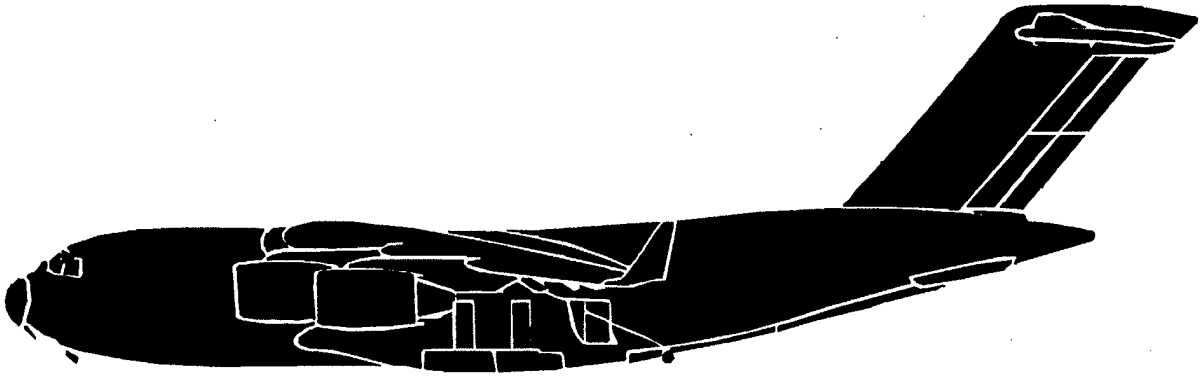
- Estimated Completion FY04
- Upgrades 19 Simulators
  - Visual Systems, Motion Systems, Computer Systems, And Aerodynamics Package (Basic Aircraft And Air Refueling Data), Facilities
- Estimated Savings Of $12M Per Year

DIRECTORATE OF OPERATIONS

KC-10 SIMULATOR UPGRADE

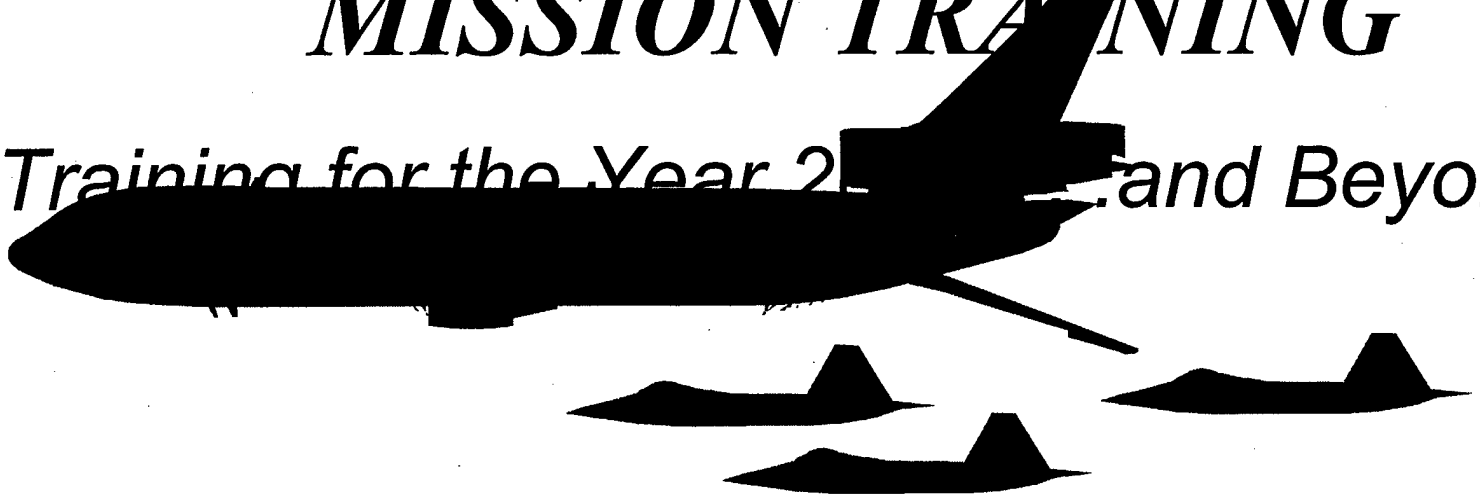
- Estimated Completion FY04
- Upgrades 4 Simulators
  - Visual Systems And Aerodynamics Package (Basic Aircraft And Air Refueling Data)
- Estimated Savings Of $6M Per Year

DIRECTORATE OF OPERATIONS

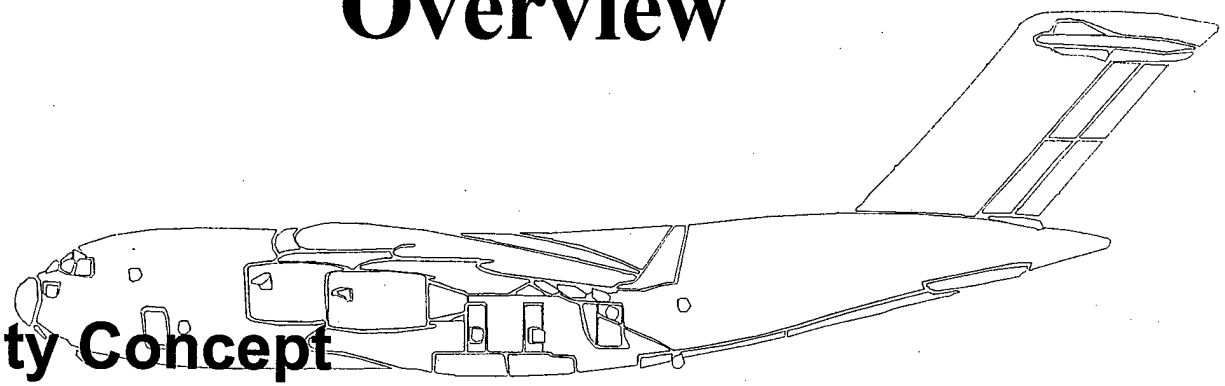


AIR MOBILITY COMMAND DISTRIBUTED MISSION TRAINING

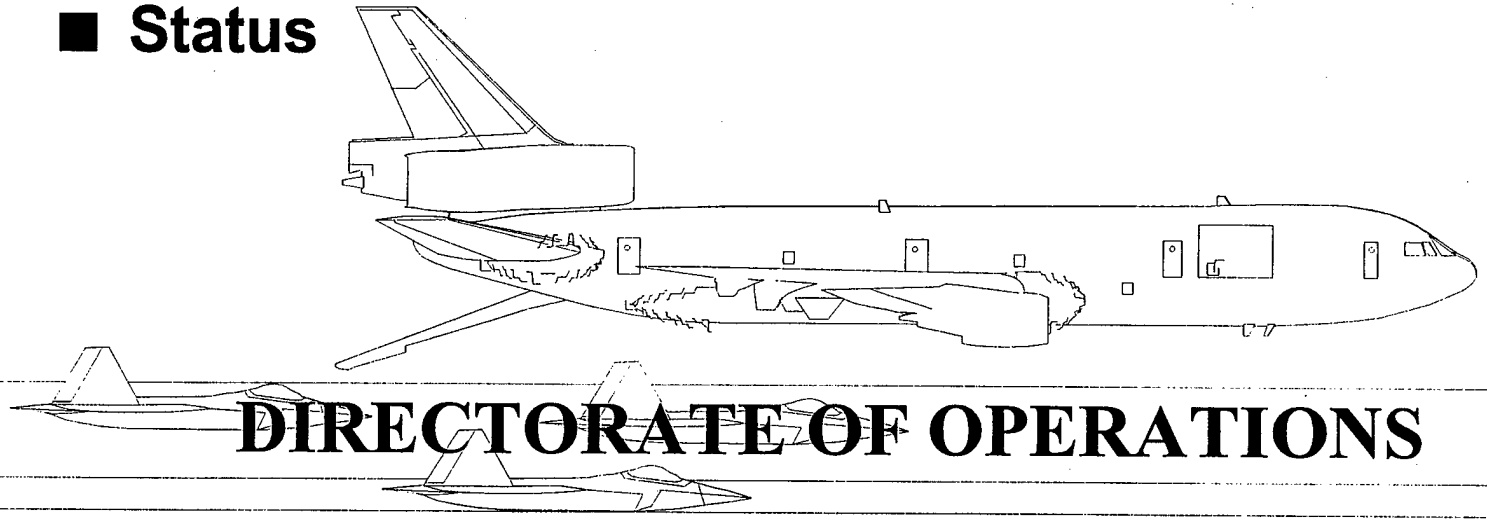
Training for the Year 2[illegible] and Beyond



Overview



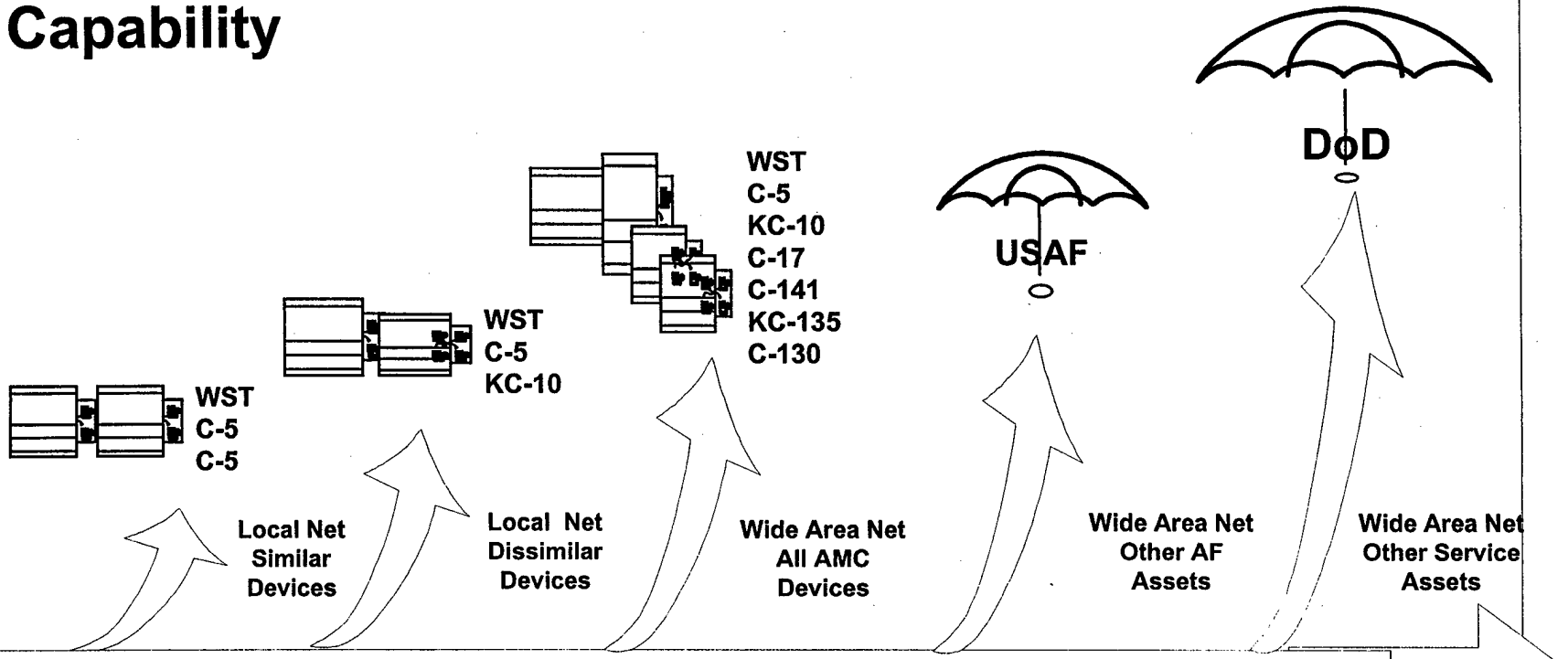
- Mobility Concept
- DMT Progression
- Step 1 proof of Concept
- Status



DIRECTORATE OF OPERATIONS

DMT Capability Evolution

Progressive Training Capability



Evaluate, Validate, Train, Expand Service . . . Repeat Cycle

DIRECTORATE OF OPERATIONS

AMC DMT Requirements

- Stabilize Sustainment Costs
  - Reduce Non-revenue flights
- Network 60+ Legacy Systems
  - Include Multiple Devices for Training Entire Crew
- HLA Compliance
- Total Training Immersion

AMC DMT ROADMAP

- FY99 - C-5 WST to C-5 WST at Dover
- FY00 - 2 C-5s WSTs at Dover with 2 C-5 WSTs at Travis
- FY01 - C-5 WST at Travis with KC-10 BOT AND KC-10 WST
  - Possibly earlier funding permitting
- FY02-03 - Start with the remaining devices

C-5 DMT PROTOTYPE

- Network two C-5 simulators at DAFB
  - –Prototypes local capability
  - –HLA compliance
- Budget - $1M
- Technical
  - –Proof of concept
  - –HLA Compliant
  - –Maximum use of existing WST Hardware/software

DMT STEP 1
DOVER C-5 WSTs

- **Mission Scenario**
  - Takeoff with 20 sec spacing
  - Departure and Visual Join-up
  - High Altitude Visual Formation Including Pre and near Contact
  - Desend to Low Level
  - Low Level Navigation to Drop Zone
  - Drop Zone
  - Climb and High Level Cruise RTB

DMT Step 1(cont.)
Dover C-5 WSTs

- Expectations
  - Visual between aircraft
  - Communications between aircraft (Comm 1)
  - Communications with ATC (Comm 2) in both aircraft

C-5 DMT STATUS UPDATE

- Contract Award
  - 2 April 98, Boeing/St Louis, $807K

- Work Completed
  - Boeing Site Visit to Altus (TSSC site)
  - H/W and S/W ordered
  - Design TIM with Gov't
  - H/W and S/W Integration at Altus Oct - Nov 98
  - Installation & Testing at Dover Dec - Jan 98
  - Final Report Jan 99
- Current Problem Areas
  - Award of O&I contract

KC-10 AIRCREW TRAINING SYSTEM (ATS) DMT

- Aerial refueling mission top priority
- Networking opportunities at two sites - McGuire AFB and Travis AFB
  - Two Weapon System Trainers (WSTs) and One Boom Operator Trainer (BOT) each site
  - WSTs undergoing major modifications including new visual systems through 2004
  - ATS contract recompete offered opportunities to network KC-10 BOT and C-5 simulator at Travis

KC-10 AIRCREW TRAINING SYSTEM (ATS) DMT (cont.)

- **ATS Contract Priced Option**
  - **Optimized for aerial refueling and formation flights**
  - **Compliant with DMT O&I standards**
    - Interoperable with all DoD simulators with an aerial refueling capability
    - C-5 WST and KC-10 BOT fully integrated locally and linked to network at Travis
    - RFP in work --seed money available now
- **Schedule**
  - **Additional Travis/McGuire networking ASAP funding and technology permitting**

C-17 DMT

- **Initial Step C-17 Training System Acquisition (TSA) Task Awarded Jul 98**
  - **Developed C-17 DMT CONOPS**
  - **Assessed WST DMT applicability**
    - Determined modifications
    - Defined options/trade-offs
    - Provided draft simulation objective model
- **Link 2 Charleston C-17 WSTs By Aug 00**

AMC DMT ROADMAP

1/99 1/00 1/01 3/01 1/02 1/03 3/03 1/04 1/05 1/06

C-5 WST/C-5 WST (Local)
C-5 WST/C-5 WST (Long Haul)
C-5 WST/KC-10 BOT/(KC-10 WST?) (Local)
C-5 WST/KC-10 BOT (Long Haul)
C-17 WST/C-17 WST (Prototype)
C-5 (All)
C-17 (All)
KC-10 BOT (All)
KC-10 WST(?)(Prototype)
KC-10 WST (All)
KC-135 WST (Prototype)
KC-135 WST (All)
KC-135 BOPTT (Prototype)
KC-135 BOPTT (All)
C-130 WST (Prototype)
C-130 (All)

DIRECTORATE OF OPERATIONS

SUMMARY

- AMC Upgrade Program (FY94 - FY04)
  - On Track
- C-5 Training Transfer
  - 33% In FY94
  - 50% In FY98
  - 100% In FY99 copilot exception
- Upgrade AMC WSTs To FAA Level C+
  - Minimize Risk Of Training Transfer
    - 50% Of Basic Proficiency
    - 50% Of Air Refueling & Cell Formation
- DMT In Work



SIMULATOR UPGRADES

QUESTIONS?

DIRECTORATE OF OPERATIONS

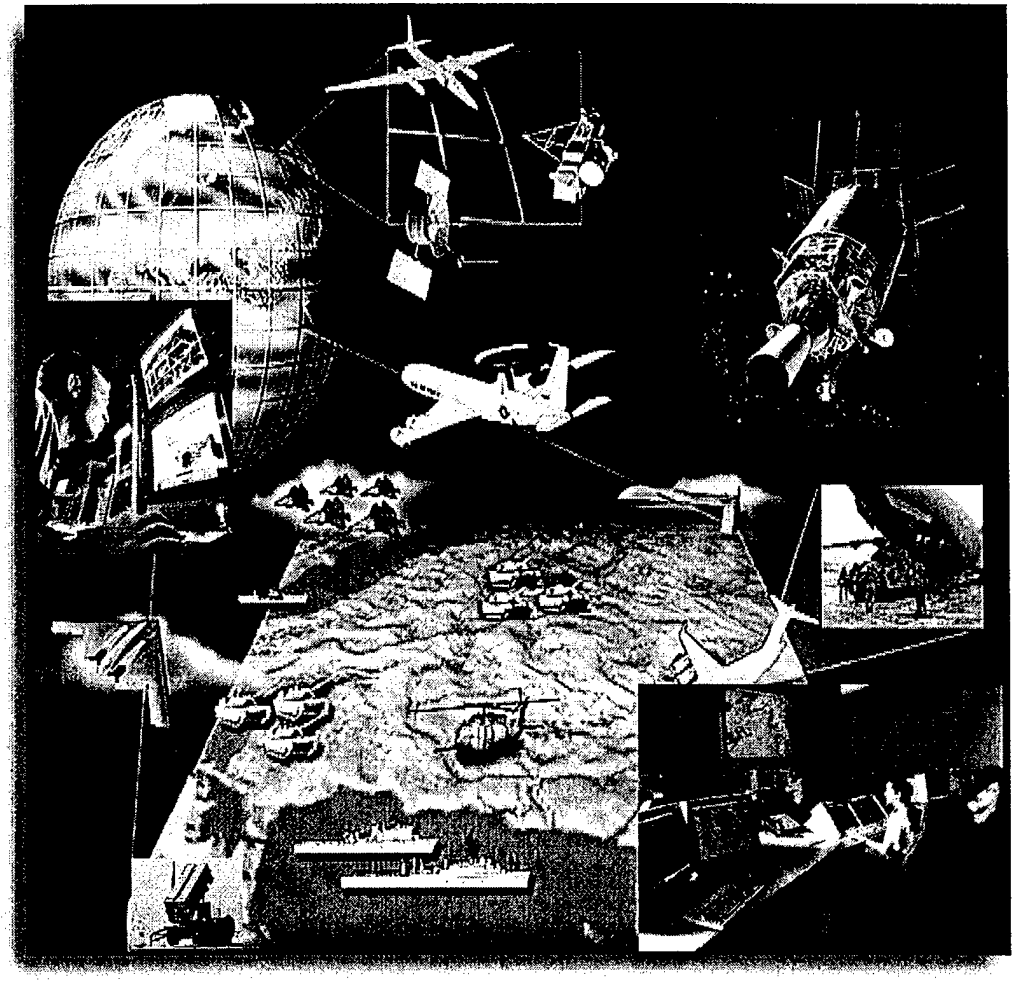


Distributed Mission Training for Space (DMT-S)

Space Training to the Next Level

Colonel Douglas P. Cook
Deputy Director of Training
Air Force Space Command

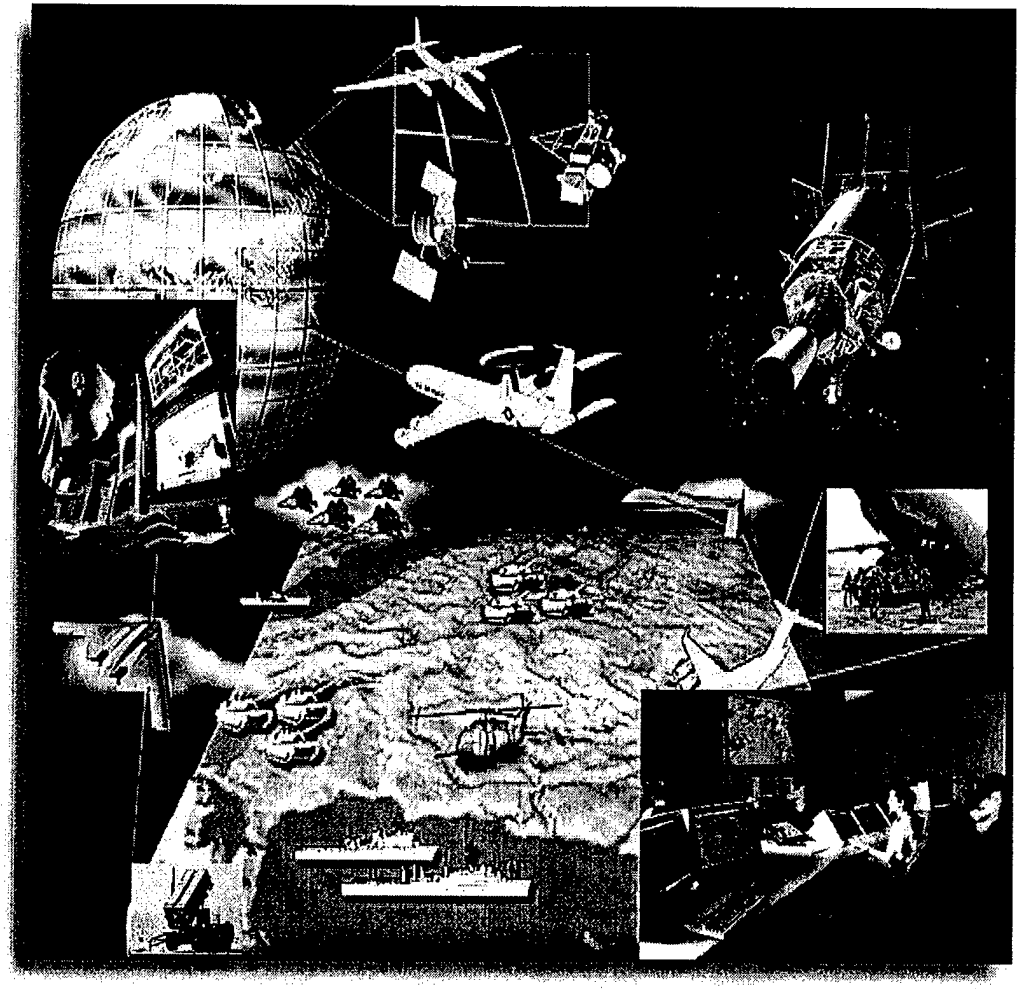
Overview



- **Vision**
- **Where We Are**
- **Where We Need to Be**
- **DMT Solution**
- **Where Do We Start?**

Individual Training ... Team Training ... Mission Rehearsal

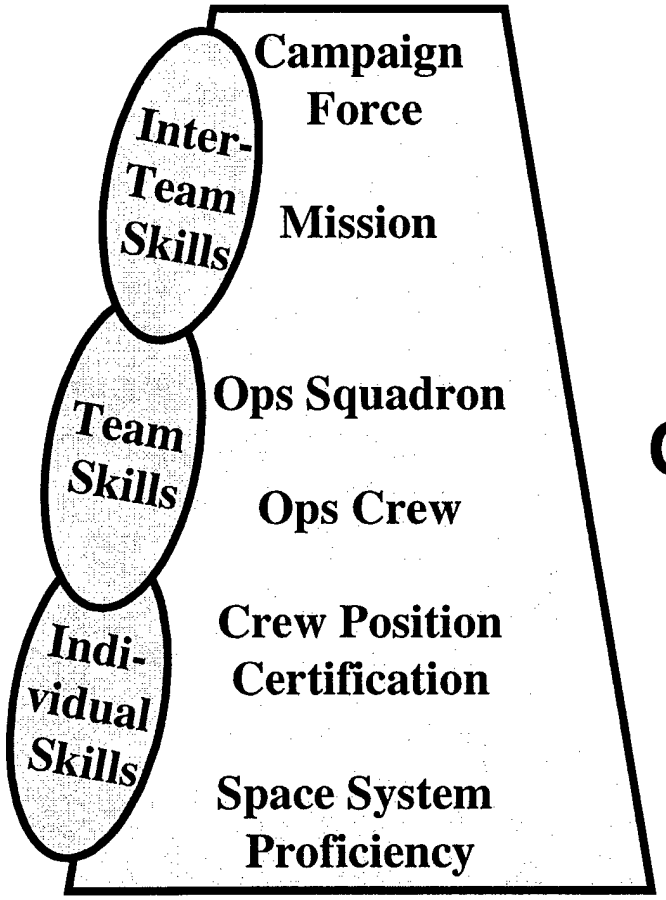
Space Training Vision



- **Realistic, fully integrated environment supporting the full spectrum of training from individual task training to campaign-level mission rehearsal**
- **AFSPC part of bigger aerospace operations picture**

Individual Training ... Team Training ... Mission Rehearsal

Space Training Vision



Hierarchy of Combat Skills

Strategic

Operational

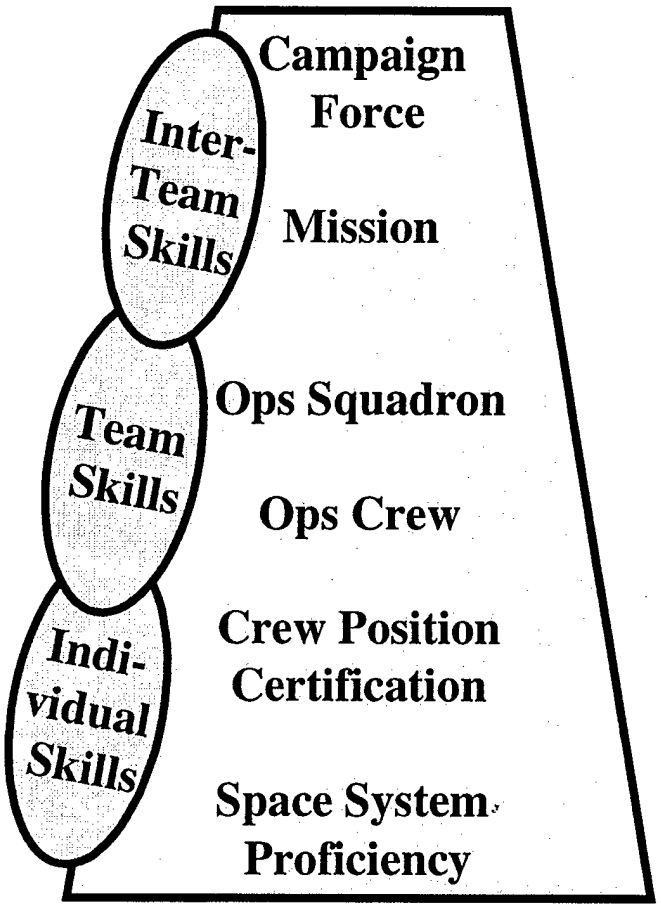
Tactical

AF, Joint, Multinational Integrated Ops
- Wargames
- Exercises
- Mission Rehearsals

Integrated Tactical Ops
- Design
- Plan
- Integrate
- React
- Redirect

Individual/Unit Skills
- Knowledge
- Technical skills
- Basic military orientation

Space Training Vision



Hierarchy of Combat Skills

Skill Categories

Inter-team

- Collective skills of multiple crews to execute missions (e.g.,notification of ballistic missile attacks)

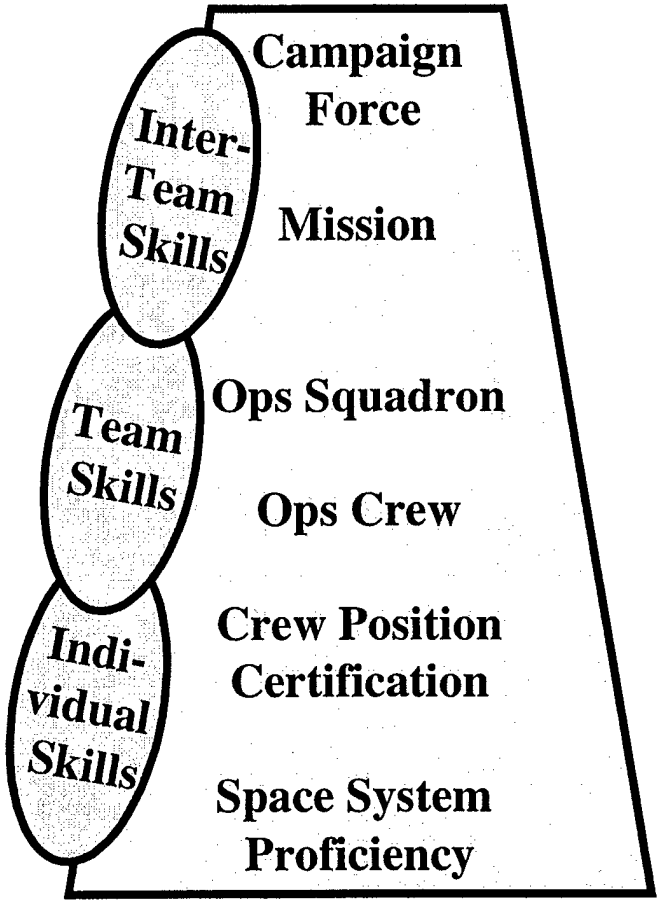
Team

- Collective crew skills needed to execute missions or portions of missions (e.g., detect and track SLBMs)

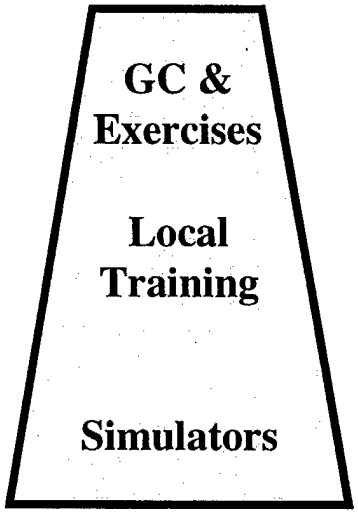
Individual

- Individual tasks/skills to effectively employ a space system as part of a crew (e.g., tracking and impact predictions)

Where We Are



Hierarchy of Combat Skills



Guardian Challenge Exercises

- Interoperability often via phone
- Extensive scripting
- Minimal automation

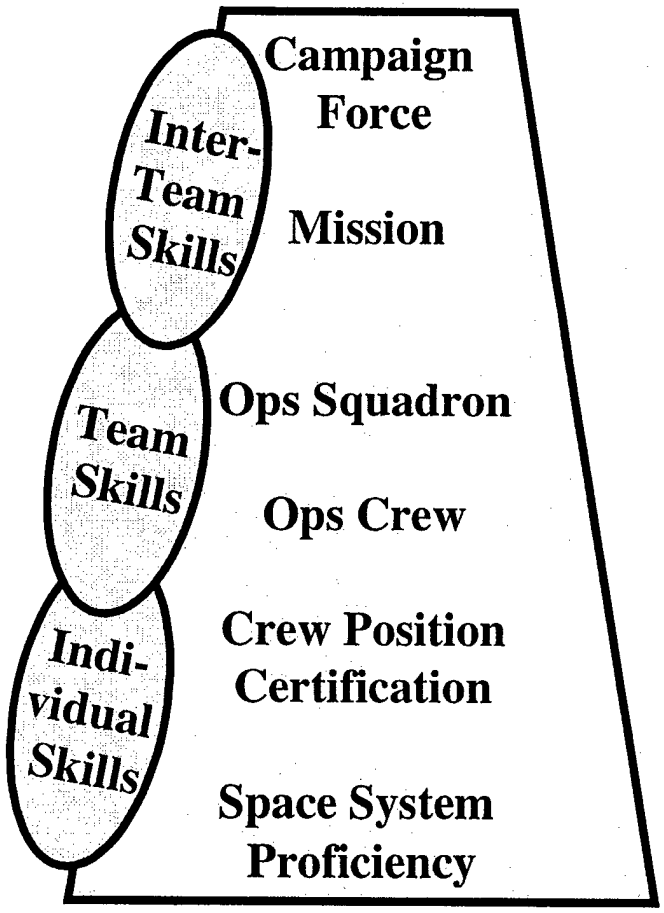
Local Training

- Often on mission equipment
- Team skills with card inputs
- Not interoperable

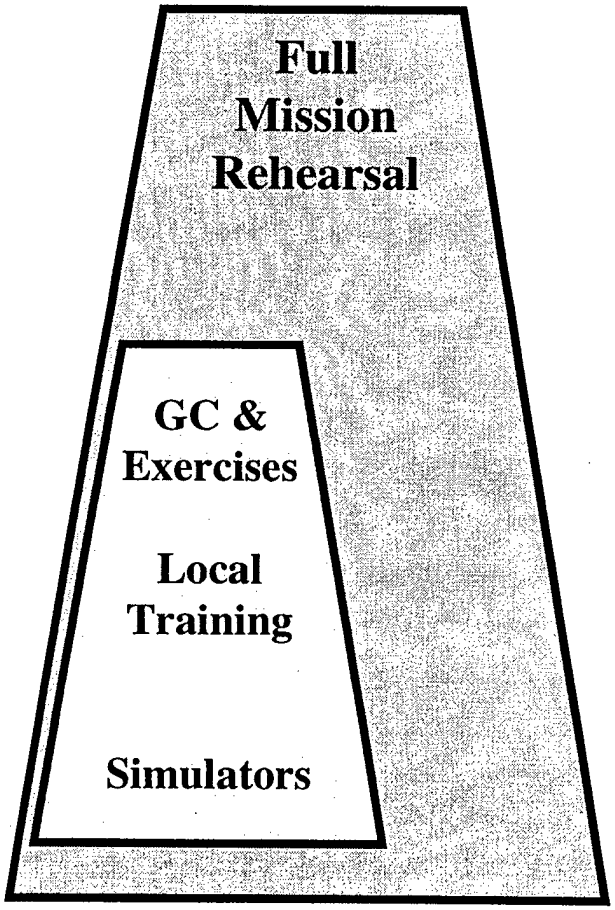
Simulators

- Part-task trainers
- May or may not be configuration managed
- Not interoperable

Where We Need to Be



Hierarchy of Combat Skills



Full Mission Training

DMT Solution



Mission rehearsal - top down

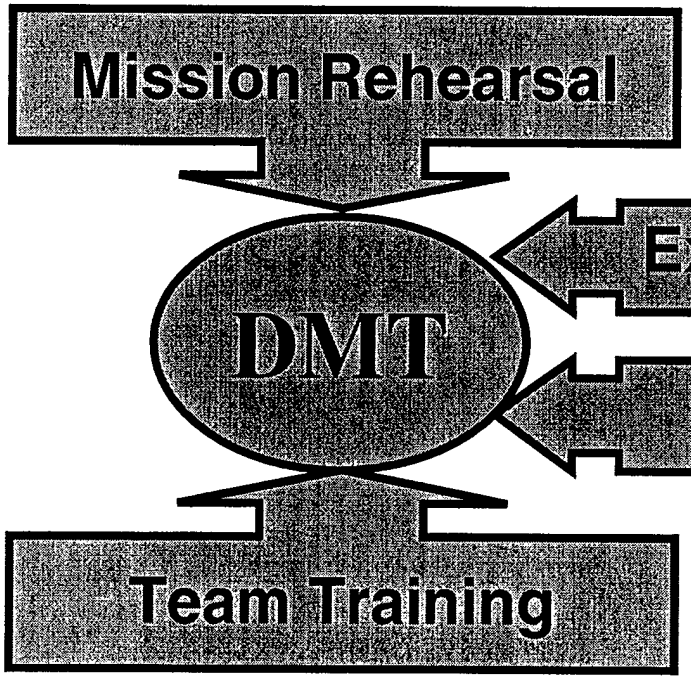
- Responsive to joint force commander
- Mission-based
- Replicate mission battlespace conditions (terrain, weather, imagery, opposition forces)

Team training - bottom up

- Responsive to unit commander
- Accurate representation of battlespace

Team Training and Mission Rehearsal satisfy operational commander's needs

DMT Solution



Experimentation

- Tactics/Doctrine Development
- Wargames
- Training Technology
- Team Coordination
- Explore C2ISR Concepts

Exercise

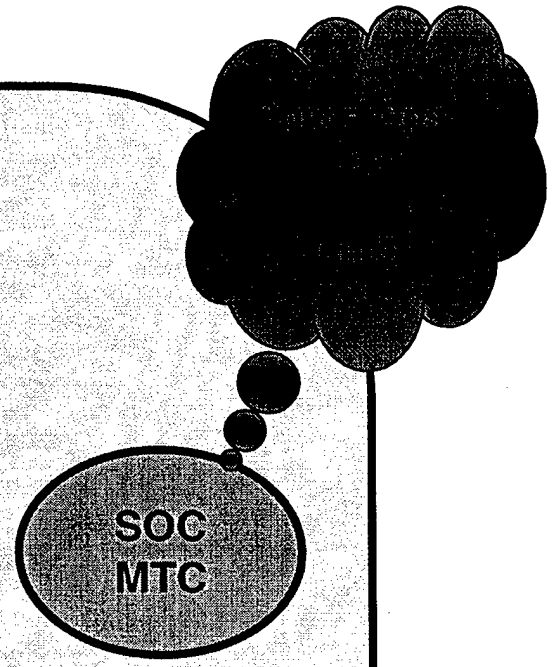
- Battlestaff Training
- Force Integration
- Ops Assessments

DMT also provides other important capabilities

DMT Solution

Distributed Warfighting Center (DWC)

- DMT's support hub at MAJCOM
- Provides support to operational unit warfighters
- Provides technical management for DMT wide-area network
- Infrastructure - not just linking simulators



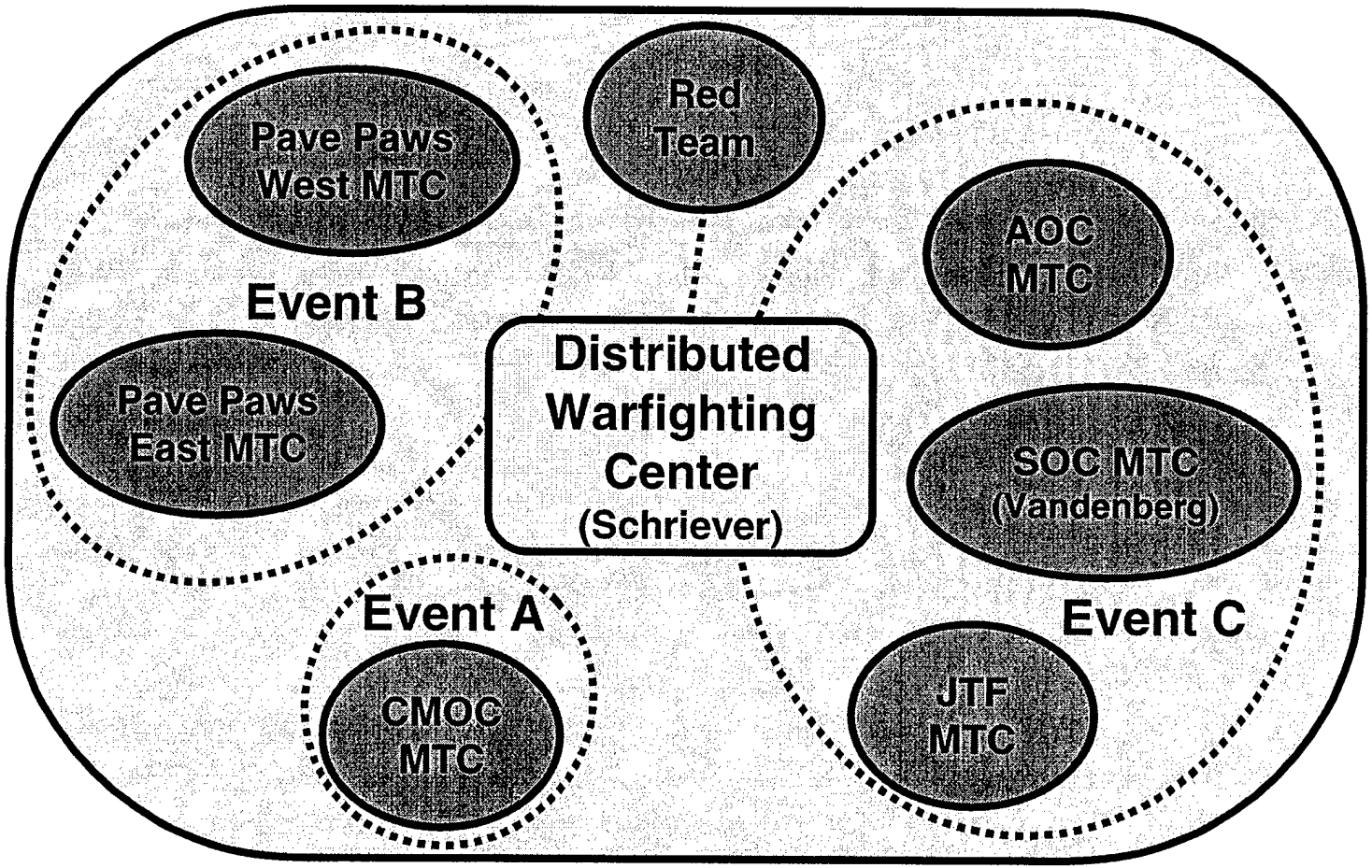
Distributed Warfighting Center

Mission Training Center (MTC)

- Primary DMT component at operational unit
- Mission rehearsal for joint force mission essential tasks
- MTCs linked together for both team training and mission rehearsal

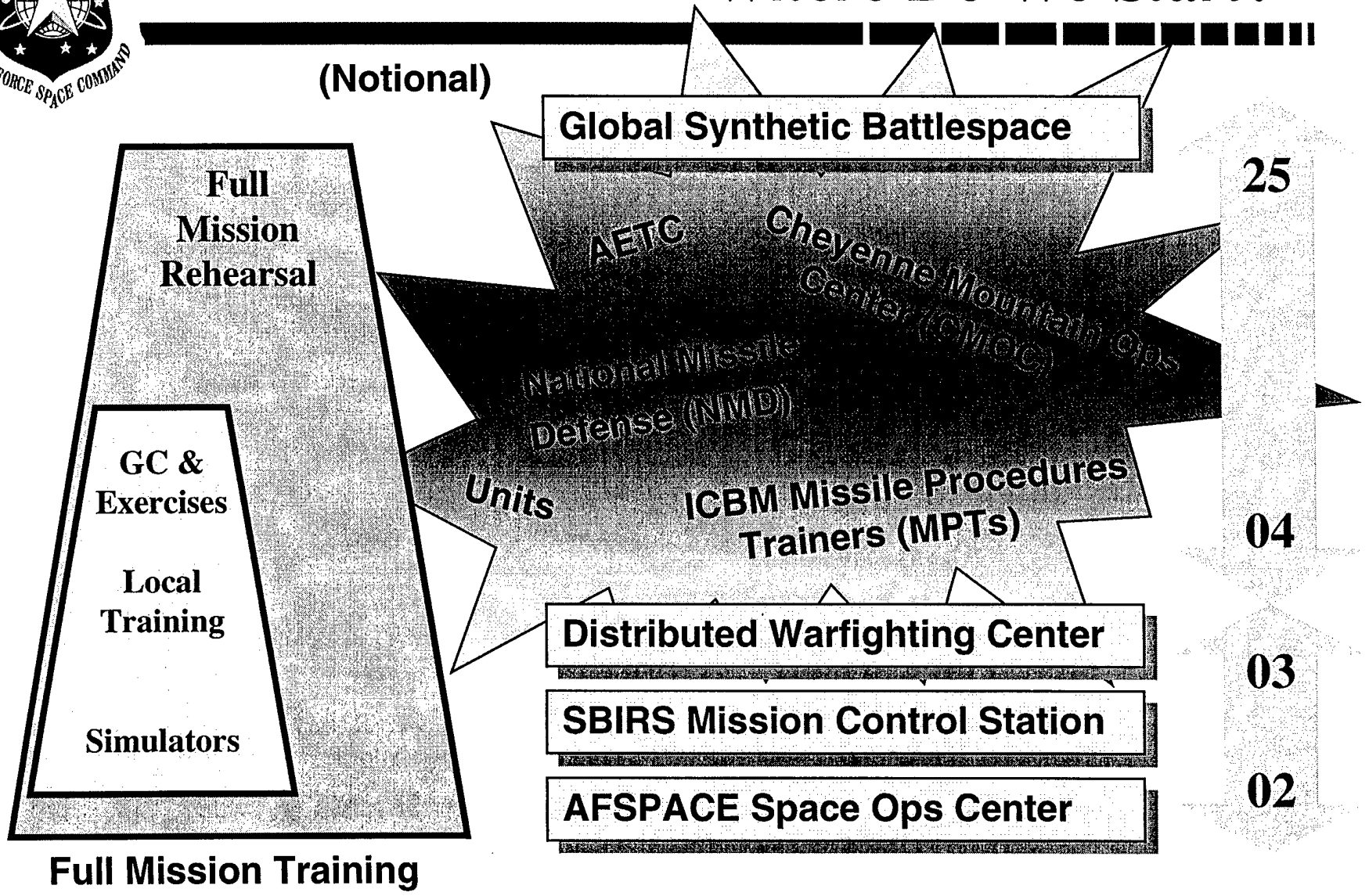
DMT Solution

(Notional)



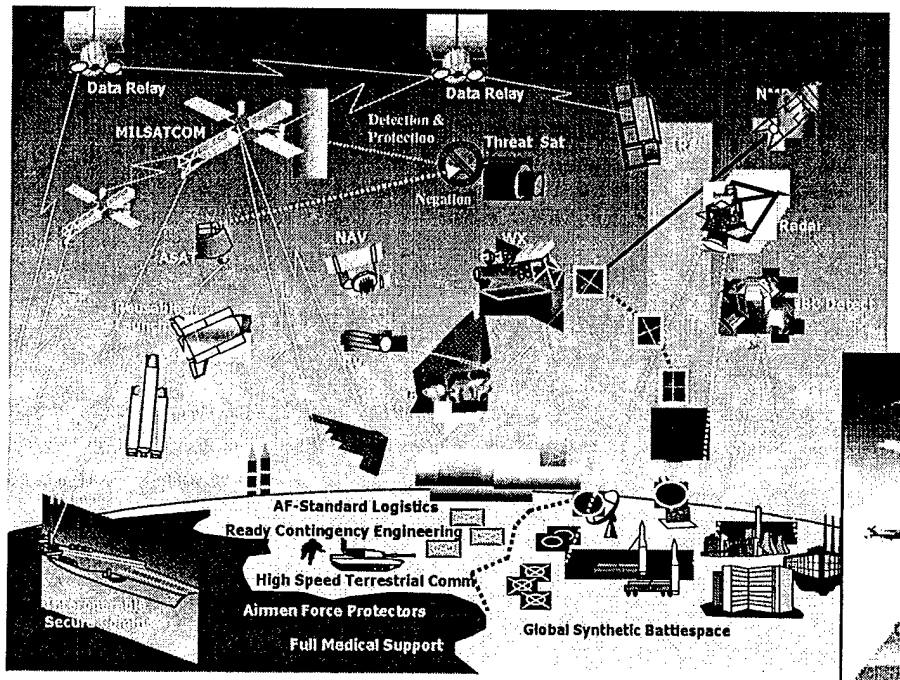
Where Do We Start?

(Notional)



Summary

- Shared training in live, virtual, and constructive environments
- Train individually or collectively at all levels of war
- Train as you fight!





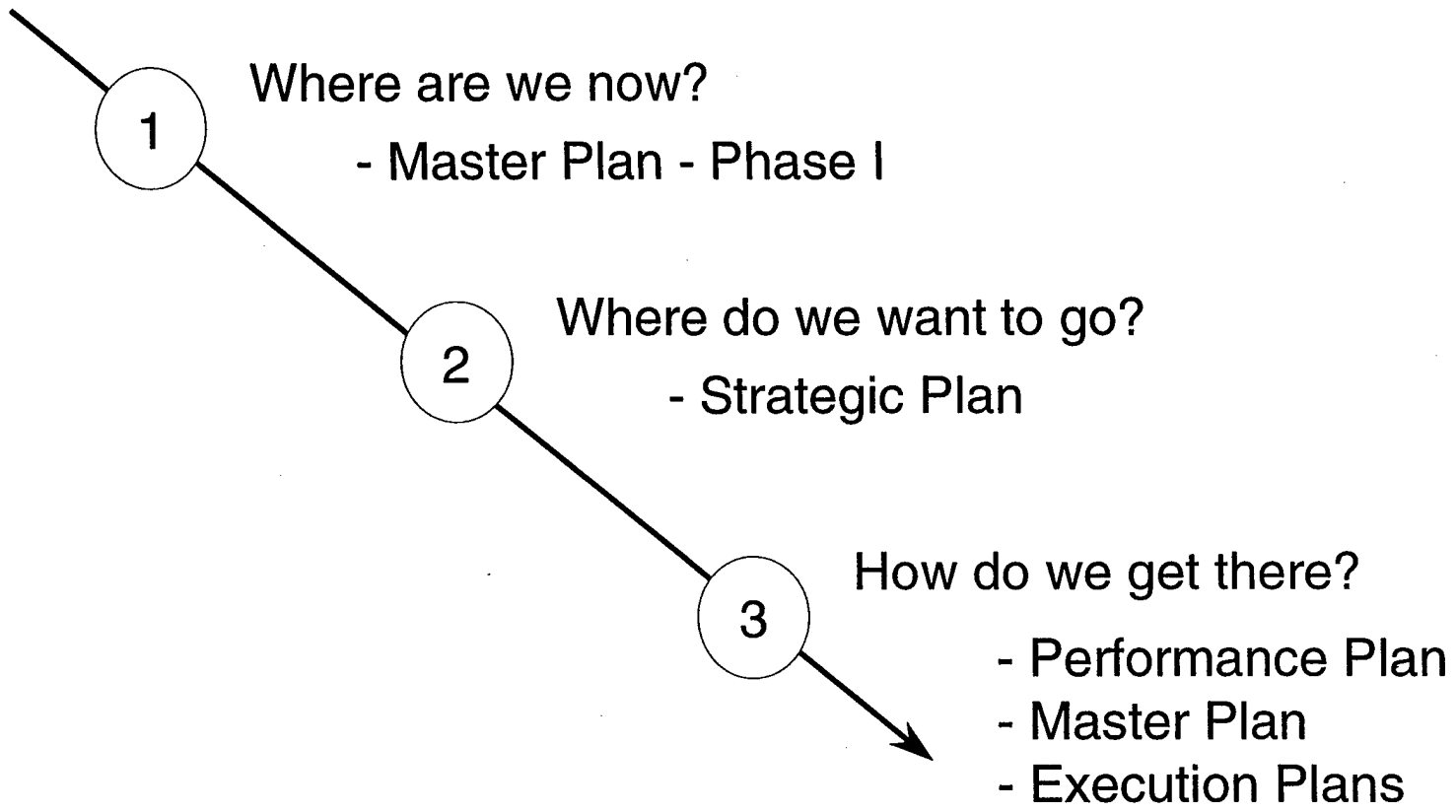
Global Synthetic Battlespace



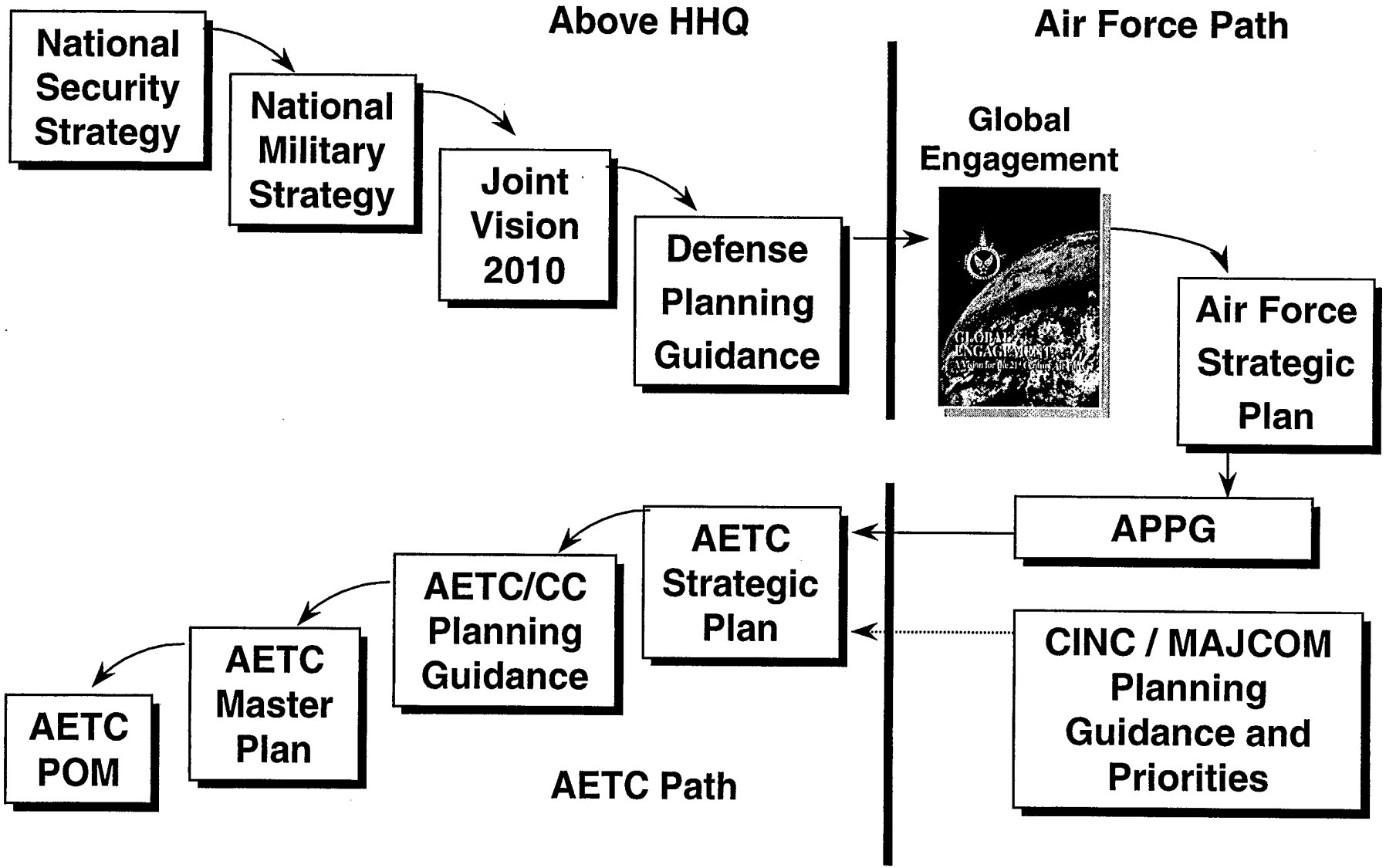
AETC
Strategic Planning

Gary E. Teer
Deputy Chief, Requirements Division
Directorate of Plans and Programs

Strategic Planning



AETC Planning Guidance



AETC Planning Process



HQ USAF

AF Strategic Plan

APPG

POM

Budget

AETC Strategic Plan

AETC/CC Planning Guidance

AETC Master Plan

AETC POM

Budget

Execution Plans

Modernization Plans

AETC

Execution

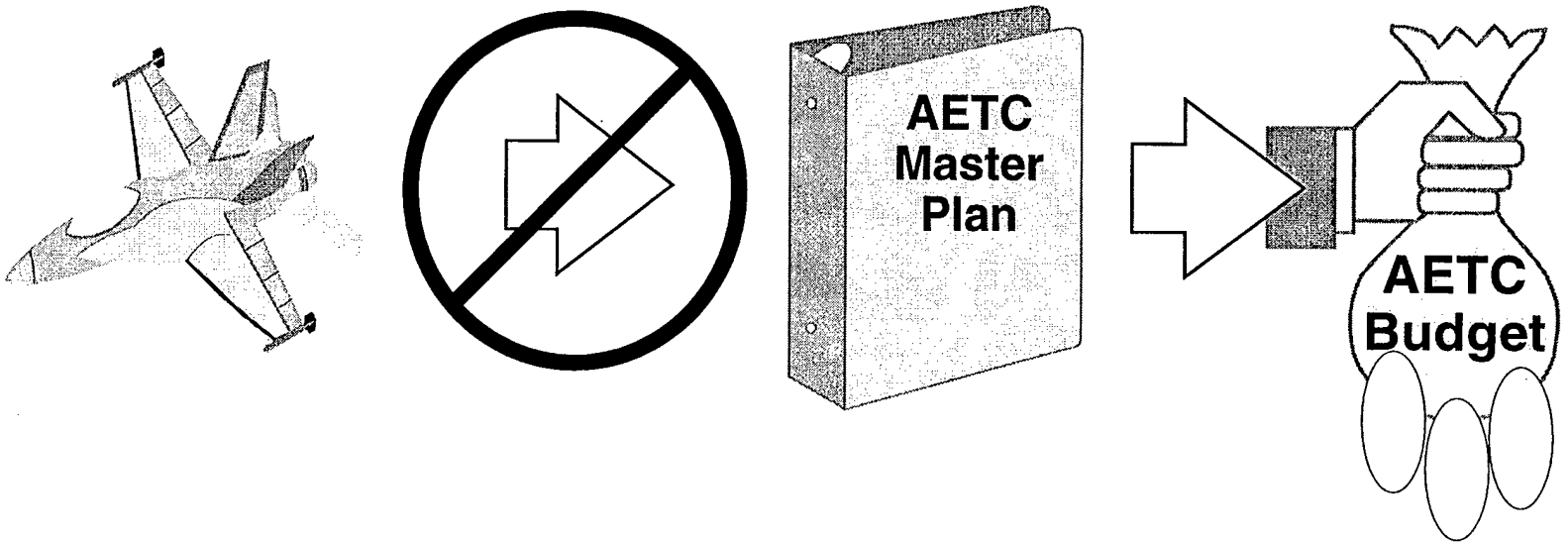
AETC Master Plan

Master Plan

AETC Master Plan

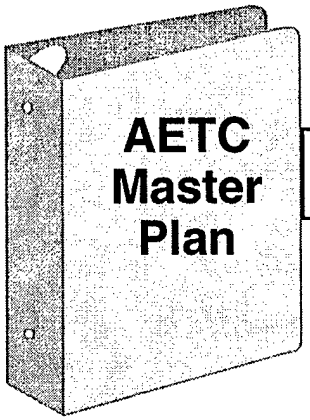
- Translates AETC/CC vision into action
- Single source document for understanding command vision, priorities, and coordination of command planning efforts
- Consolidates and integrates functional, modernization, and support planning
- Provides prioritized, fiscally-constrained programming guidance for POM build

The Bottom Line



"If it's not in the Master Plan, it's not in the budget."

A Phased Approach



Phase I

Current Program Assessment

How?

Phase II

Program Prioritization - Planning Process Initiation

Phase III

Integrated Planning Process - MP Rebuild

Key Mission Areas

- Recruiting
- Training
- Education
- Mission Support
- Combat Readiness

Key Assessment Areas

Equipment	Infrastructure	People

- Recruiting
- Training
- Education
- Mission Support
- Combat Readiness

Assessment Timelines

	Equipment			Infrastructure			People		
	C	S	M	C	S	M	C	S	M
Recruiting									
Training									
Education									
Mission Support									
Combat Readiness									

C: Current (FY 99)

S: Short-Range (FY 00 - 05)

M: Medium-Range (FY 06 - 14)

Capability Assessments

	Equipment			Infrastructure			People		
	C	S	M	C	S	M	C	S	M
Recruiting									
Training									
Education									
Mission Support									
Combat Readiness									

C: Current (FY 99)

S: Short-Range (FY 00 - 05)

M: Medium-Range (FY 06 - 14)

Good Capability

Partial Capability

Poor or No Capability

Capability Assessment Definitions

- **Green** – Program or process objective obtainable. Milestones on track. Minor or no deficiencies. Corrective actions identified and underway, or executable, for minor deficiencies. Program fully funded and/or required resources available
- **Yellow** – Program or process objective in jeopardy. Insufficient information available for program/capability assessment. Milestone schedule slipping or likely to slip and/or maintaining schedule requires high-risk workarounds. Minor to moderate deficiencies. Corrective actions not identified or not executable for deficiencies. Program not fully funded and/or required resources limited
- **Red** – Program or process objective not obtainable as structured. Significant schedule slippage. Moderate to significant deficiencies. Program unfunded and/or required resources not available

Current Program Assessment
AETC

RRN	Mission Area	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
1	Recruiting									
2	Training									
3	Education									
4	Support									
5	Combat Readiness									

RRN: Roadmap Reference Number

C: Current (FY 99)
S: Short-Range (FY 00 - 05)
M: Medium-Range (FY 06 - 14)

Green - Good Capability
Yellow - Partial Capability
Red - Poor or No Capability

Current Program Assessment
Recruiting

RRN	Recruiting	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
1	**Recruiting**									
1.1	Operations									
1.2	Advertising									

	Recruiting: Operations	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
1.1	**Operations**									
1.1.1	Applicant Processing									
1.1.2	Recruiter Mission Sustainment (OPSTEMPO)									
1.1.3	Recruiter Support									
1.1.4	Information Support System									

RRN: Roadmap Reference Number

C: Current (FY 99)
S: Short-Range (FY 00 - 05)
M: Medium-Range (FY 06 - 14)

Green - Good Capability
Yellow - Partial Capability
Red - Poor or No Capability

Current Program Assessment Training

	Training	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
2	**Training**									
2.1	Technical									
2.2	Flying									

	Training: Technical	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
2.1	**Technical**									
2.1.1	Intel Training									
2.1.2	Basic Training/MEPS									
2.1.3	General Skills Training									
2.1.4	Operational Headquarters									
2.1.5	Space Training									
2.1.6	Field Training Detachments & ECI Civilian Pay									
2.1.7	Global Command and Control System									

	Training: Technical: Intel	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
2.1.1	**Intel**									
2.1.1.1	CRYPTO/SIGINT Initial and Progression Skill Training									
2.1.1.2	General Intelligence Initial and Progression Skill Training									
2.1.1.3	Intel Comm & Def Spec Security Sys									
2.1.1.4	Other Intel Training									

Current Program Assessment
Training (cont.)

	Training: Technical: Intel: Crypto/Sigint	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
2.1.1.1	**Crypto/Sigint**									
2.1.1.1.1	Voice Processing Training System									
2.1.1.1.2	STAR									

	Training: Technical: Intel: Intel Comm & Def Spec	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
2.1.1.3	**Intel Comm & Def Spec**									
2.1.1.3.1	Communications Support Processor (CSP)									
2.1.1.3.2	Air Force Special Security Office (AFSSO)									
2.1.1.3.3	Top-Off Intelligence									

	Training: Technical: Intel: Other	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
2.1.1.4	**Other**									
2.1.1.4.1	Combat Air Intel Sys Activities - CIS & Contract									
2.1.1.4.2	Logistic Support for Information Processing and Production (I2P2)									
2.1.1.4.3	Cryptological Maintenance Training (support and maintenance)									
2.1.1.4.4	Electronic Combat Equipment Training Support									
2.1.1.4.5	Cryptological Maintenance Training									
2.1.1.4.6	Joint Imagery Analysis Distance Learning									
2.1.1.4.7	Constant Source Tactical Terminal									
2.1.1.4.8	Manned Reconnaissance System									

Current Program Assessment
Training (cont.)

	Training: Technical: Basic/MEPS	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
2.1.2	**Basic/MEPS**									
2.1.2.1	Personnel Processing Activities									
2.1.2.2	Basic Military Training									
2.1.2.3	Basic Military Training (BMT) Reserve Unit									

	Training: Technical: General Skills	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
2.1.3	**General Skills**									
2.1.3.1	Mission Readiness Training (MRT, TDY-to-School)									
2.1.3.2	Training Group Operating Support									
2.1.3.3	Contracts									
2.1.3.4	Non-Fly Depot Level Repairables (DLRs)									
2.1.3.5	Distance Learning									
2.1.3.6	OTMS									
2.1.3.7	GCCS (Keesler Training & AOS Ops)									
2.1.3.8	Meteorological Satellite Training									
2.1.3.9	Training Developments									
2.1.3.10	Air Force Occupational Measurement Squadron									
2.1.3.11	Education and Training Tech Application Program (ETTAP)									
2.1.3.12	Studies and Analysis Squadron									
2.1.3.13	Training Development Flights at Training Groups									
2.1.3.14	Trainer Development									
2.1.3.15	Combat Survivor Evador Locator									

Current Program Assessment
Training (cont.)

	Training: Technical: Space	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
2.1.5	**Space**									
2.1.5.1	Undergraduate and Supplemental Space Training									

	Training: Flying	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
2.2	**Flying**									
2.2.1	SUPT									
2.2.2	Flight Screening									
2.2.3	ABM									
2.2.4	Flying Operations									
2.2.5	Combat Air Force Fighter Training									
2.2.6	Special Operations Support									
2.2.7	Other Flying Training									
2.2.8	UH-1N									
2.2.9	Airfield Operation									
2.2.10	ARC Manpower									
2.2.11	TWCF Flying Hours (No AETC commitment)									
2.2.12	Airlift/Mobility/Special Ops Training									
2.2.13	ENJJPT									
2.2.14	UNT									

Current Program Assessment
Training (cont.)

	Training: Flying: SUPT	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
2.2.1	**SUPT**									
2.2.1.1	Undergraduate Pilot Training (Includes PIT)									
2.2.1.2	T-38 Avionics Upgrade									
2.2.1.3	T-38 Pacer Classic									
2.2.1.4	T-38 Regeneration									
2.2.1.5	T-1A GATM									
2.2.1.6	T-1A GPS									
2.2.1.7	Reserve Forces									
2.2.1.8	JPATS									

	Training: Flying: SUPT: JPATS	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
2.2.1.8	**JPATS**									
2.2.1.8.1	T-6A GATM									

	Training: Flying: Flight Screening	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
2.2.2	**Flight Screening**									
2.2.2.1	T-3 Enhanced Flight Screener									

Current Program Assessment Training (cont.)

	Training: Flying: ABM	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
2.2.3	**ABM**									
2.2.3.1	AWACS Training System									
2.2.3.2	Theater Air Control System									

	Training: Flying: Flying Operations	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
2.2.4	**Flying Operations**									
2.2.4.1	19 AF Headquarters									

	Training: Flying: CAF Fighter Training	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
2.2.5	**CAF Fighter Training**									
2.2.5.1	CAF Fighter Pilot Training									
2.2.5.2	Tactical Deception									
2.2.5.3	Mission Planning System AFMSS									
2.2.5.4	Combat Rescue and Recovery									
2.2.5.5	F-22 Beddown	n/a			n/a			n/a		

Current Program Assessment
Training (cont.)

	Training: Flying: Special Ops Support	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
2.2.6	**Special Ops Support**									
2.2.6.1	CV-22 Training Systgem									

	Training: Flying: Other	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
2.2.7	**Other**									
2.2.7.1	Education Management System									
2.2.7.2	Decision Support System (ADSS)									
2.2.7.3	Combat Crew Training Management System									

	Training: Flying: Airfield Operation	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
2.2.9	**Airfield Operation**									
2.2.9.1	Air Traffic Control and Landing System (ATCALS)									
2.2.9.2	Weather Service									

	Training: Flying: ARC Manpower	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
2.2.10	**ARC Manpower**									
2.2.10.1	Fighter									
2.2.10.2	Airlift									

Current Program Assessment
Training (cont.)

	Training: Flying: Airlift/Mobility/Special Ops	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
2.2.12	**Airlift/Mobility/Special Ops**									
2.2.12.1	Mobility Training									
2.2.12.2	Special Ops Training									
2.2.12.3	C-130J									

	Training: Flying: UNT	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
2.2.14	**UNT**									
2.2.14.1	T-43A Traffic Collision Avoidance System									
2.2.14.2	T-43A Terrain Awareness Warning System Equipment Install									
2.2.14.3	T-43A Navigator Training Suite Upgrade									
2.2.14.4	T-43A GPS									
2.2.14.5	T-43A GATM									

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Current Program Assessment
Education

	Education	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
3	**Education**									
3.1	Accessions									
3.2	Professional Military Education									
3.3	Professional Continuing Education									
3.4	Degree Granting									
3.5	Citizenship Programs Support									
3.6	Wargaming Support									
3.7	Information Technology Support									
3.8	Educational Support Activities									
3.9	Maxwell-Gunter Facility Projects									
3.10	Distance Learning									

	Education: Accessions	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
3.1	**Accessions**									
3.1.1	Officer Training School (OTS)									
3.1.2	Air Force Reserve Officers Training Corps (AFROTC)									
3.1.3	Airman Education and Commissioning Program (AECP)									

Current Program Assessment
Education (cont.)

	Education: Professional Military Education	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
3.2	**Professional Military Education**									
3.2.1	College for Enlisted Professional Military Education (CEPME)									
3.2.2	Aerospace Basic Course (ABC)									
3.2.3	Squadron Officer School (SOS)									
3.2.4	Air Command and Staff College (ACSC)									
3.2.5	School of Advanced Airpower Studies (SAAS)									
3.2.6	Air War College (AWC)									
3.2.7	Armed Forces Staff College (AFSC)									
3.2.8	Industrial College of the Armed Forces (ICAF)									
3.2.9	National War College (NWC)									
3.2.10	Air Force Fellows									

	Education: Professional Continuing Education	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
3.3	**Professional Continuing Education**									
3.3.1	Academic Instructor School (AIS)									
3.3.2	International Officer School (IOS)									
3.3.3	Air Force Institute of Technology (AFIT) PCE									
3.3.4	Systems Acquisition School (SAS)									
3.3.5	College for Professional Development (CPD)									
3.3.6	College for Aerospace Doctrine Research and Education (CADRE)									

Current Program Assessment
Education (cont.)

	Education: Degree Granting	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
3.4	**Degree Granting**									
3.4.1	Community College of the Air Force									
3.4.2	Air Force Institute of Technology (AFIT) Graduate Education									

	Education: Citizenship Programs Support	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
3.5	**Citizenship Programs Support**									
3.5.1	Civil Air Patrol - USAF									
3.5.2	Civil Air Patrol (CAP) Corporation									
3.5.3	Air Force Junior Reserve Officers Training Corps (AFJROTC)									

	Education: Wargaming Support	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
3.6	**Wargaming Support**									
3.6.1	Air Force Wargaming Institute (AFWI)									
3.6.2	TENCAP									
3.6.3	Prairie Warrior									

Current Program Assessment
Education (cont.)

	Education: Information Technology Support	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
3.7	**Information Technology Support**									
3.7.1	Education Management System (EMS)									
3.7.2	Information Technology Upgrades									
3.7.3	Network Maintenance for Gunter and Maxwell									

	Education: Educational Support Activities	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
3.8	**Educational Support Activities**									
3.8.1	United States Air Force Chaplains Resource Division									
3.8.2	Mental Health Family Advocacy									
3.8.3	AETC Social Actions Offices (13)									
3.8.4	Air University Library (AUL)									
3.8.5	CADRE Command and Support Staff									
3.8.6	Air University Television									
3.8.7	Air University Press									
3.8.8	Headquarters Support									

	Education: Maxwell-Gunter Facility Projects	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
3.9	**Maxwell-Gunter Facility Projects**									
3.9.1	42ABW Civil Engineering									
3.9.2	OTS Campus									
3.9.3	SOS Dorm Replacement									
3.9.4	CCAF Refurbishment									

Current Program Assessment
Education (cont.)

	Education: Distance Learning	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
3.10	**Distance Learning**									
3.10.1	Extension Course Institute (ECI)									
3.10.2	Air University Distance Learning									

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Current Program Assessment Support

	Support	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
4	**Support**									
4.1	Mission Support									
4.2	Installation Support									
4.3	Communication & Information									

	Support: Mission Support	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
4.1	**Mission Support**									
4.1.1	BOS									
4.1.2	Management of Headquarters									
4.1.3	Child Development									
4.1.4	Family Centers									
4.1.5	Fitness Facilities and Equipment									
4.1.6	Off-Duty/Voluntary Education and Tuition Assistance									
4.1.7	Public Affairs									
4.1.8	Substance Abuse Control									

Current Program Assessment Support (cont.)

	Support: Mission Support: BOS	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
4.1.1	**BOS**									
4.1.1.1	Training (BAC 3 Bases)									
4.1.1.2	Fighter (BAC 1 Bases)									
4.1.1.3	Mobility (BAC 2 Bases)									
4.1.1.4	Library									
4.1.1.5	Fitness Facilities									
4.1.1.6	Integrated Logistics System									
4.1.1.7	Supply Asset Tracking System									

	Support: Installation Support	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
4.2	**Installation Support**									
4.2.1	Family Housing									
4.2.2	Demolition/Disposal									
4.2.3	RPS									
4.2.4	RPM									
4.2.5	Environmental & Pollution Prevention									
4.2.6	Air Base Ground Defense and Anti-Terrorism									
4.2.7	Chemical and Biological Defense Program									
4.2.8	Dormitory									

Current Program Assessment Support (cont.)

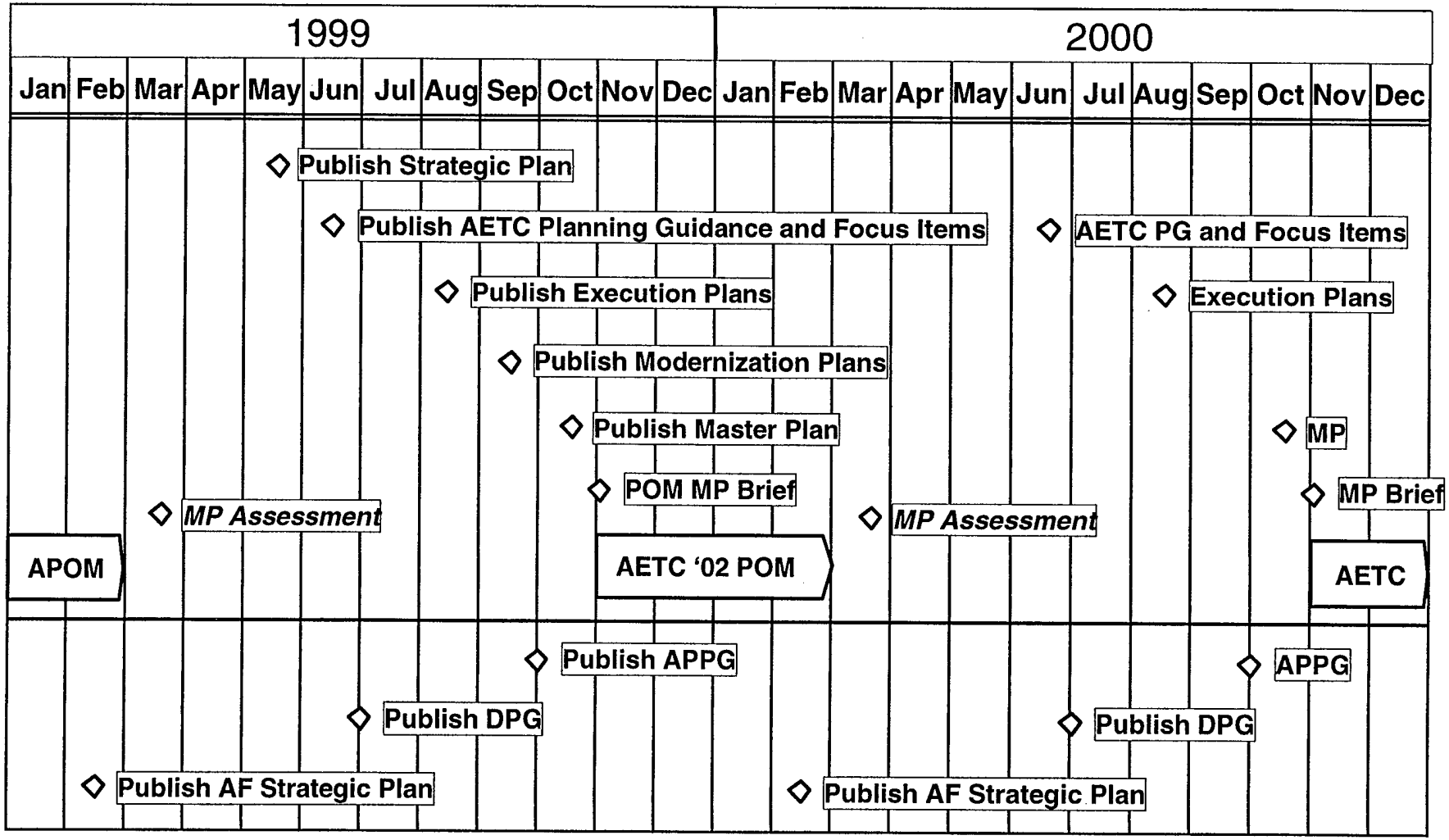
	Support: Communication & Information	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
4.3	**Communication & Information**									
4.3.1	C&I Sustainment									
4.3.2	AETC C&I Initiatives									

	Support: C & I: C & I Sustainment	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
4.3.1	**C & I Sustainment**									
4.3.1.1	DMS (downward directed)									
4.3.1.2	Base Communications									
4.3.1.3	Visual Information									
4.3.1.4	Long Haul Communication									
4.3.1.5	Keesler Schoolhouse									
4.3.1.6	Little Rock Support									

	Support: C & I: AETC C & I Initiatives	Equipment			Infrastructure			People		
		C	S	M	C	S	M	C	S	M
4.3.2	**AETC C & I Initiatives**									
4.3.2.1	Comm, Computers, Information Systems									
4.3.2.2	Information Infrastructure & Interoperability Integration									
4.3.2.3	Comm & Information Operations (NOI/TOI/Y2K/ERM)									

Annual Planning Schedule

Strategic Planning Timeline





Planning the future for the

First Command



AFSOC Brief to Industry

Col Mike Damron
HQ AFSOC/DOT

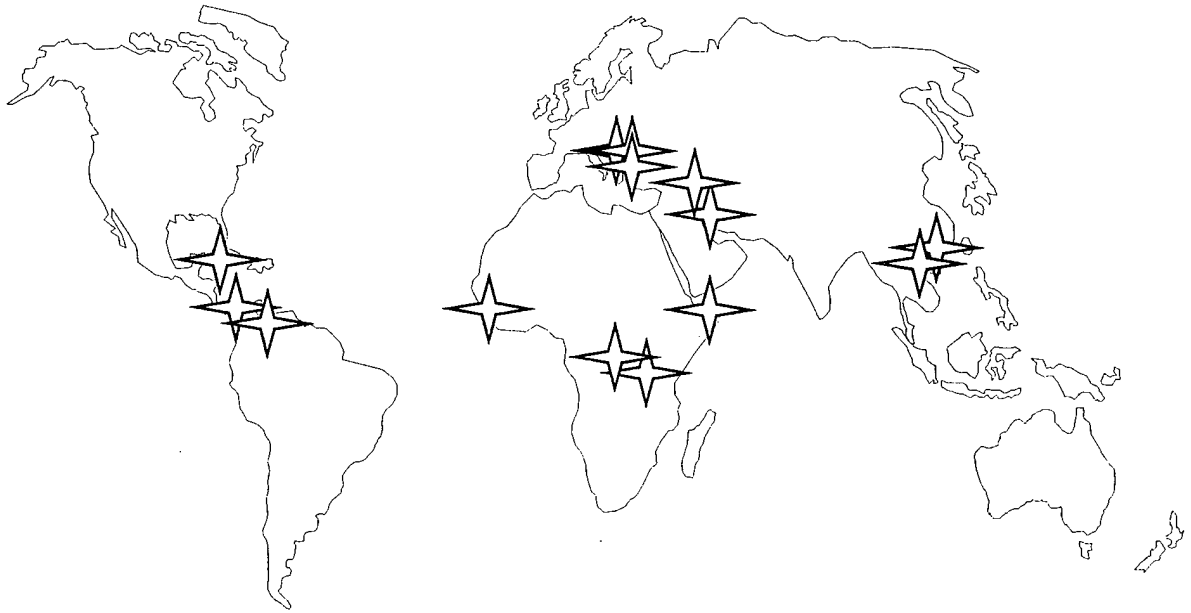
22 Apr 99



OVERVIEW

- AFSOC Background Information
- Distributed Training
- Distance Learning
- Areas for Industry Advancement

OPERATIONS TEMPO



Since 1975, Air Force Special Operations Forces have been operated in hostile or combat environments 22 out of 24 years.



EUROPEAN COMMAND
AGILE LION
ATLANTIC RESOLVE
ATLAS SERIES
BRAVE EAGLE
CENTRAL HARMONY
COOPERATIVE BRIGHT EYE
DYNAMIC MIX
ELLIPSE BRAVO
FLINTLOCK
JCET
MATADOR
NOBLE ROSE
PEACEFUL EAGLE
SACRED COMPANY
SHARED ENDEAVOR
SILVER EAGLE
TRAIL BLAZER
TROJAN FOOTPRINT

PACIFIC COMMAND
BALANCE SERIES
BLIKATAN
COBRA GOLD
COPE THUNDER
ELLIPSE CHARLIE
FLASH SERIES
FOAL EAGLE
FREQUENT STORM
GRYPHON SERIES
JTFEX
NORTHERN EDGE
RSOI
TANDEM THRUST
TEAK SERIES
TEMPEST EXPRESS
TEMPO SERIES
UFL

ATLANTIC COMMAND
CARIB SERIES
COOPERATIVE NUGGET
ELIPSE ALPHA
FAIRWINDS
JTFEX
NORTHERN VIKING
ROVING SANDS
TRADEWINDS
STRONG RESOLVE
UNIFIED ENDEAVOR

CENTRAL COMMAND
BRIGHT STAR
EAGER INITIATIVE
EARLY VICTOR
EASTERN EAGLE
EASTERN METEOR
EASTERN VALOR
EASTERN VIPOR
ELLIPSE FOXTROT
INDIGO DESERT
INHERENT FURY
INSPIRED VENTURE
INTERNAL LOOK
INTRINSIC ACTION
IRON COBRA
IRIS GOLD
NATIVE FURY
NATIVE MAKER
NATURAL FIRE
NECTAR BEND
NOBLE PIPER
ROVING SANDS
RUGGED VORTEX
ULTIMATE RESOLVE

CJCS/NON JCS
ELLIGIBLE RECEIVER
POSITIVE FORCE
BLUE FLAG
GREEN FLAG
RED FLAG
WARRIOR FLAG
JRX

SOUTHERN COMMAND
BLUE ADVANCE
ELLIPSE ECHO
FUERZAS ALIADAS-CABANAS
FUERZAS DEDEFESAS
JCET

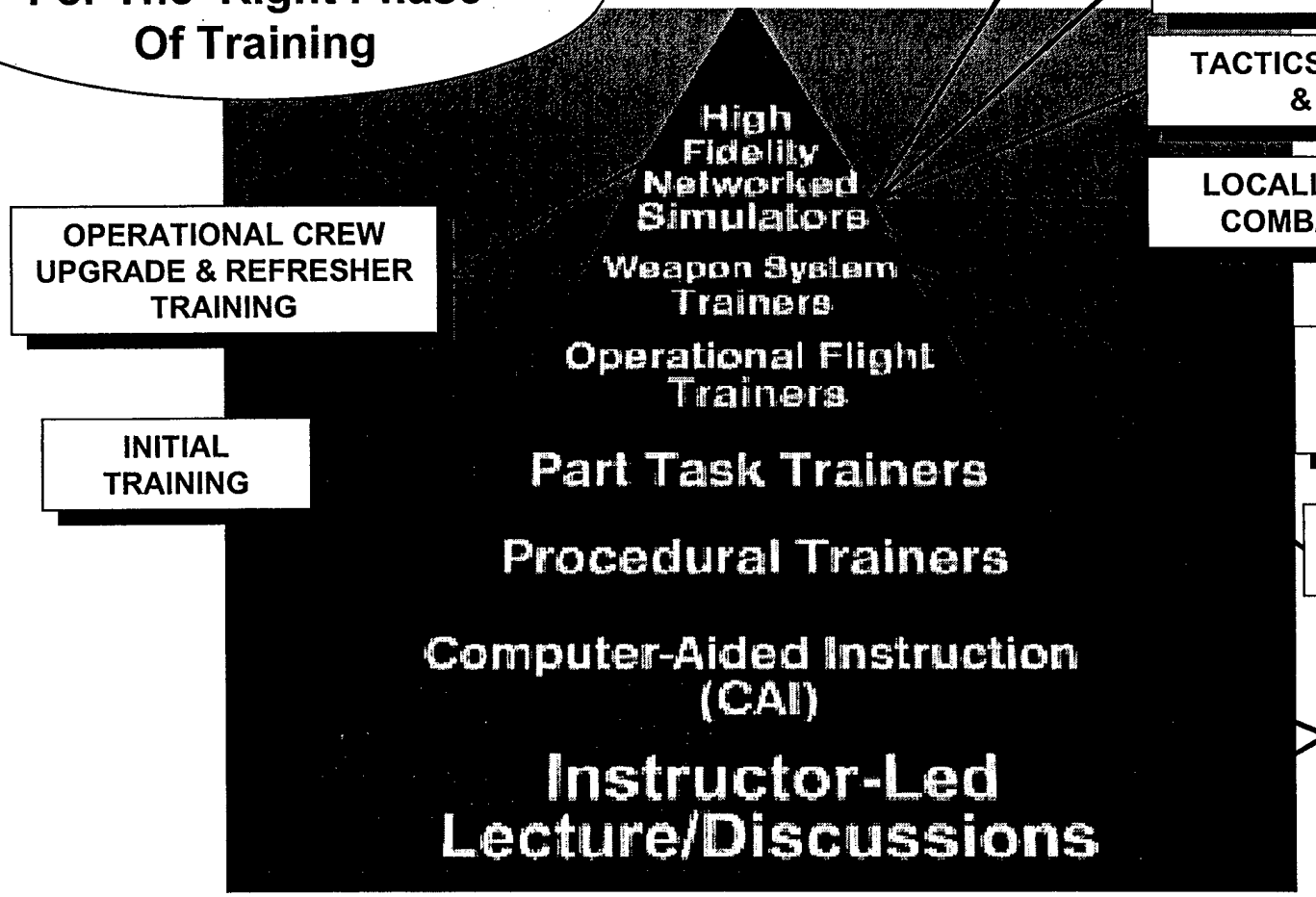
TRAINING NEEDS

OPTEMPO and small force structure

- Create less time for training
- Drive need to accomplish quality training without additional stress on personnel
- A leveraging of technology

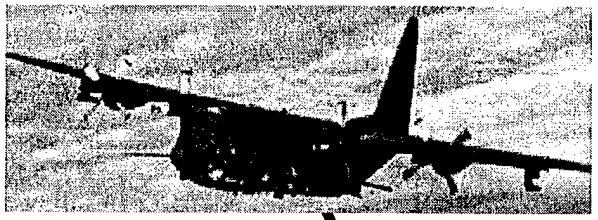
AFSOC TRAINING PYRAMID

The Right Fidelity For The Right Phase Of Training



- DISTRIBUTED MISSION TRAINING/ REHEARSAL
- DISTRIBUTED GROUND FORCE TRAINING
- TACTICS DEVELOPMENT & TRAINING
- LOCALLY NETWORKED COMBAT EXERCISES
- OPERATIONAL CREW UPGRADE & REFRESHER TRAINING
- OPS MAINTENANCE TRAINING
- INITIAL TRAINING
- TEST & EVALUATION
- CONTINUATION GROUND TRAINING

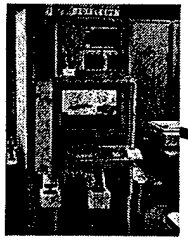
DISTRIBUTED SIMULATOR NETWORK



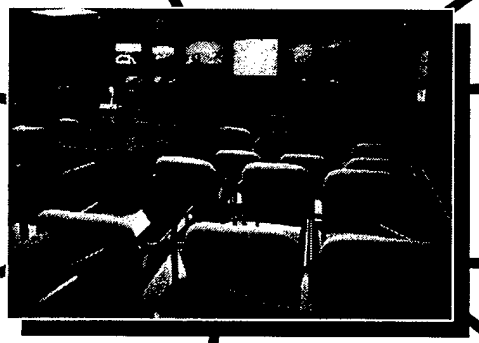
AC-130U WST



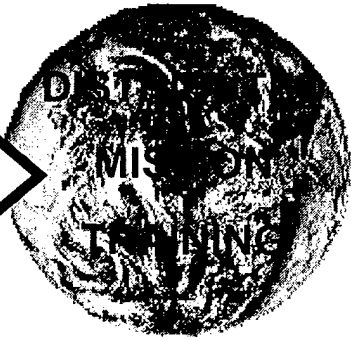
MC-130H MRD

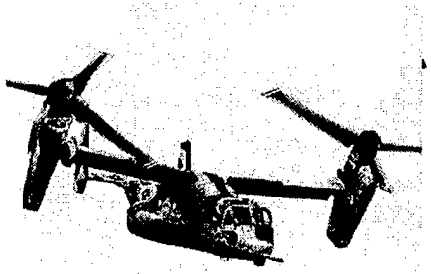


TOPSCENE

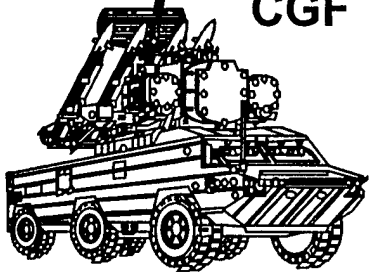


DIS/HLA GATEWAY

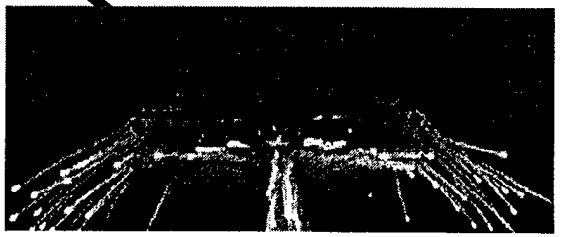




CV-22 OFT



CGF

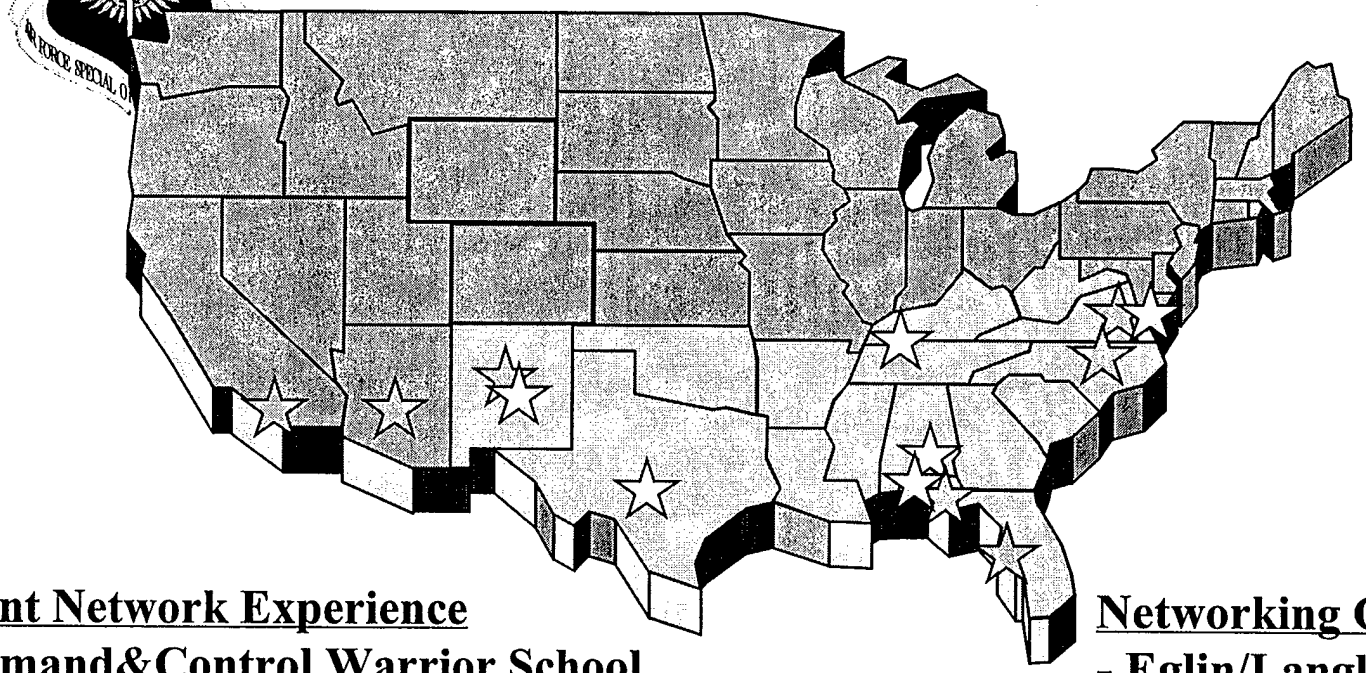


MC-130E WST

DISTRIBUTED TRAINING EVENTS

- **STOW-A**
  - AFSOC AC/MC-130, USASOC H-47/60, Rangers, SF, TACCSF (CAP, SEAD, AWACS)
- **Bi-Weekly TACCSF**
  - TACCSF (conventional air), AFIWC (EW environment), TBA (observer)
- **EFX**
- **DMT (Future)**

NETWORKING



Current Network Experience

- Command&Control Warrior School
- TACCSF
- 160 SOAR, Ft Campbell
- Aviation Testbed, Ft Rucker
- Theater Battle Arena
- AFIWC

Networking Goals

- Eglin/Langley (DMT)
- Ft Bragg (USASOC)
- NAS Coronado (NAVSPECWARCOM)
- MacDill (USSOCOM)
- Luke (F-16/TACCSF-99)
- 58 SOW (Kirtland AFB)

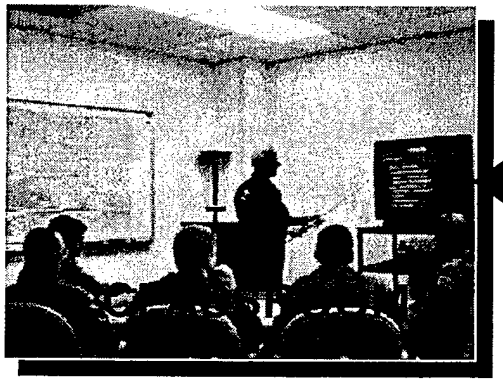
SIMULATOR and NETWORKING CONCERNS

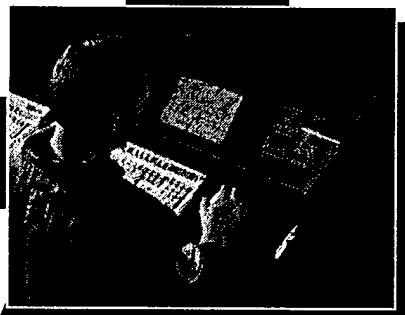
- **Weapon system - Training device concurrency**
  - AFSOC #1 M&S priority
- **Database correlation**
  - "Fair" playing field
  - Correlation & accuracy are critical for mission rehearsal
- **Latency**

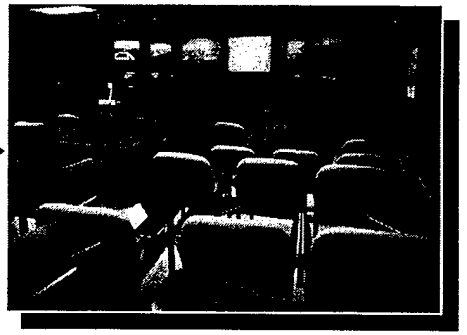
INTEGRATED TRAINING SYSTEM

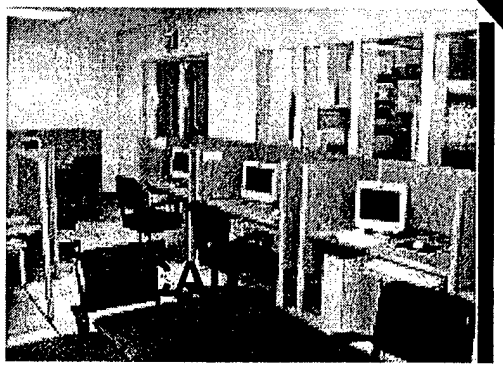


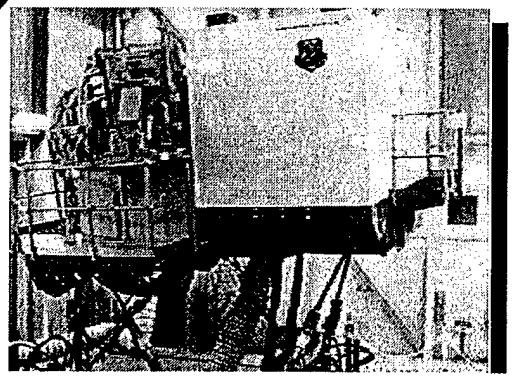
Continuation Ground Training to Deployed Crews











DEPLOYABLE DISTANCE LEARNING EXPERIMENT

Constraints

- Low bandwidth (2 x POTS)
  - DSN too low
- "Talking heads" nice, but not required
- 2-way sharing of voice, text, graphics/animation required
- Collaborative computing used

DEPLOYABLE DISTANCE LEARNING EXPERIMENT

Lessons Learned

- **Technical difficulties**
  - **Software "locked up" -- Mostly due to lack of computer expertise at receiving end**
- **Cultural difficulties**
  - **Unit commanders stated opposition to concept prior to start of the demonstration**
  - **Aircrews receiving training saw potential in spite of the technical glitches**
- **Technology & Personnel are "almost there"**

AREAS FOR FURTHER STUDY and ADVANCEMENT

- Rapid, inexpensive simulator upgrades
  - Some modifications are more expensive for a single simulator than for the entire fleet of aircraft
- Easily correlated simulator databases
- Deployable distance learning capability



Points of Contact

➔ ***Operations Training:*** **Col Mike Damron**

- **Phone: DSN 579-2234, com 850-884-2234**
- **e-mail: damronm@hurlburt.af.mil**

➔ ***Modeling and Simulation:*** **Major Donald**

- **Phone: DSN 579-2181, com 850-884-2181**
- **e-mail: donaldj@hurlburt.af.mil**

➔ ***Training System Acquisition:*** **Capt DeCastro**

- **Phone: DSN 579-5535, com 850-884-5535**
- **e-mail: decastra@hurlburt.af.mil**

AMERICA'S SPECIALIZED AIR POWER

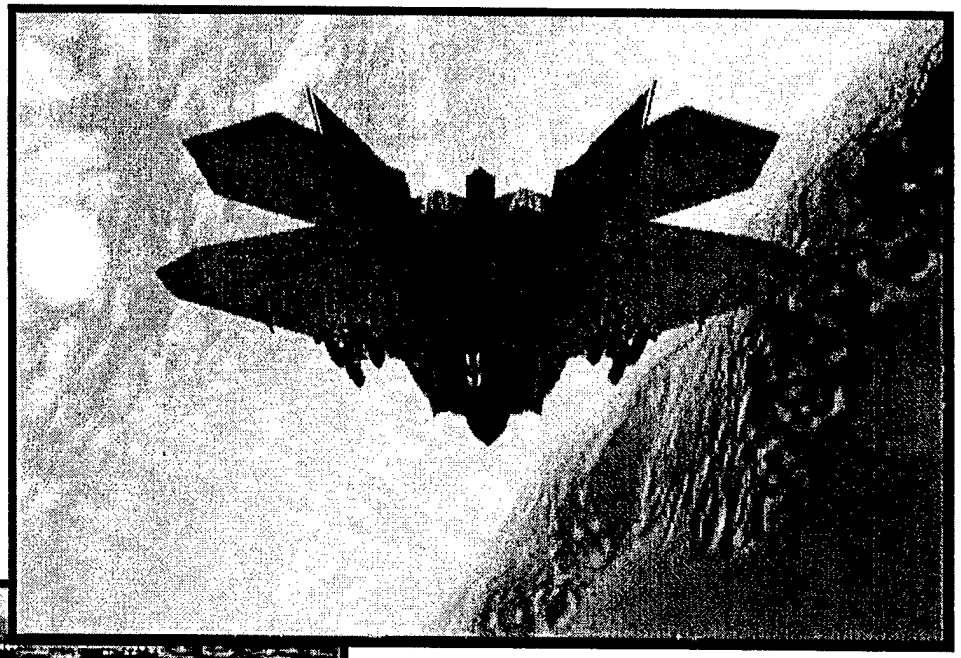


A STEP AHEAD IN A CHANGING WORLD

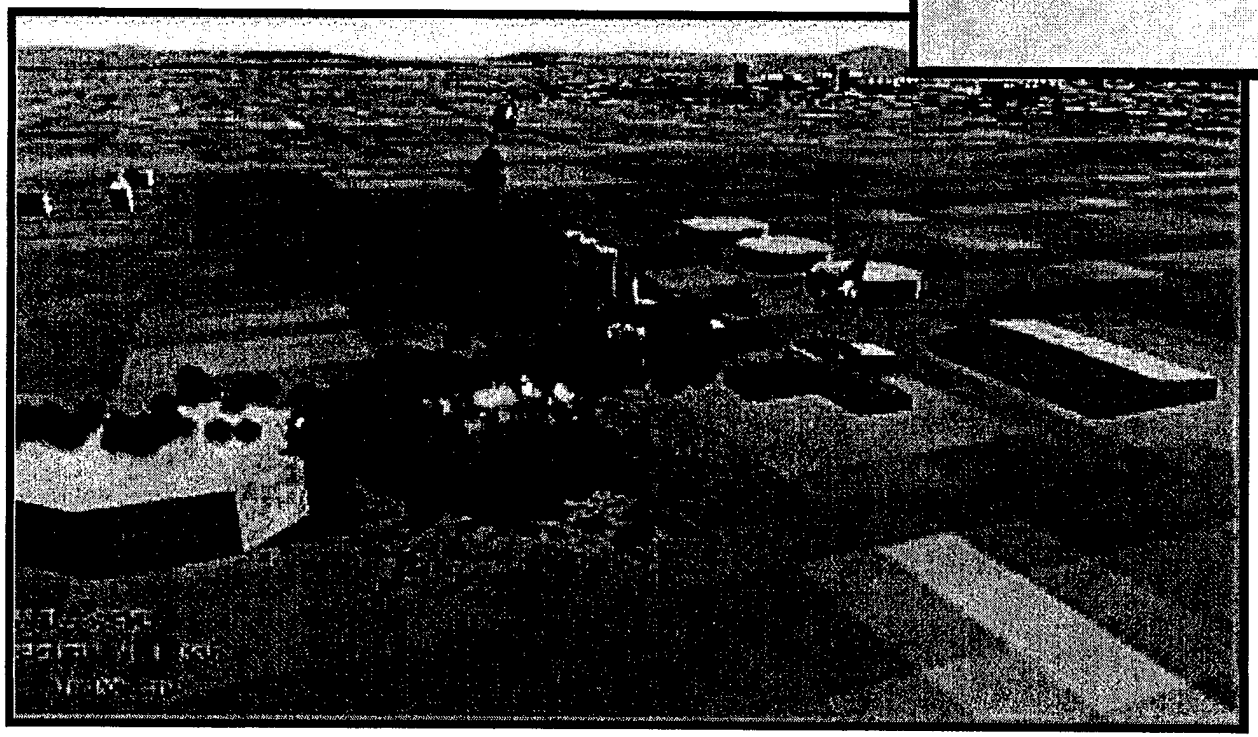


ACC Readiness Training

Lt Col Paul 'PJ' Avella
Dep Ch, Conventional Ops & Trg Div
HQ ACC/DOT



"We all live every day in virtual environments, defined by our ideas."



Michael Crighton
Disclosure

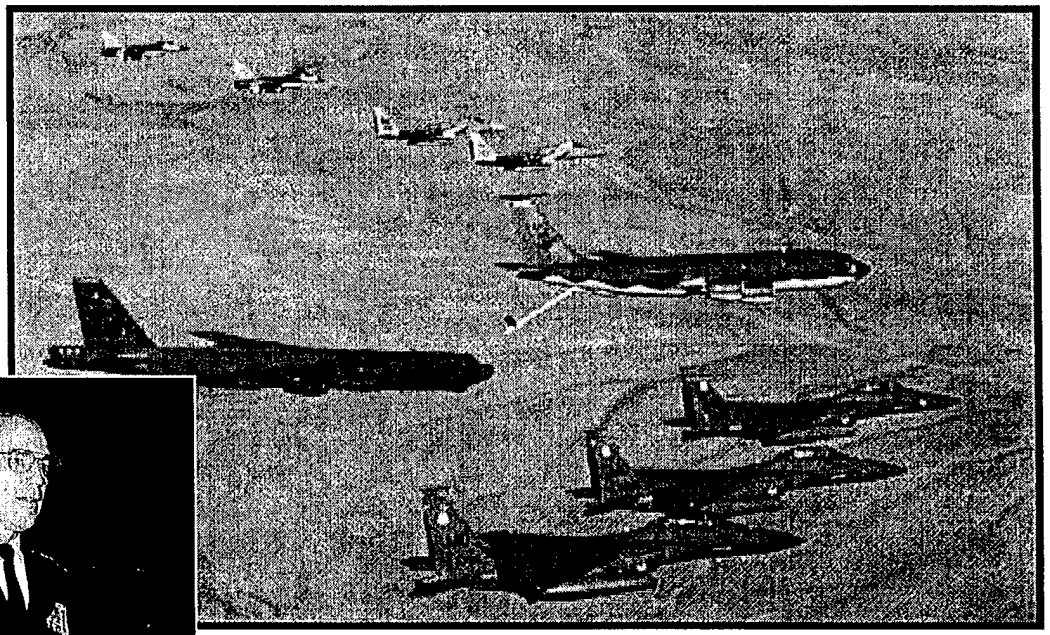
OVERVIEW

- Readiness training
- Distributed Mission Training (DMT)
- Integrated Process Team
- Training Services
- Technology needs

ACC's MISSION TRAIN & EQUIP

"We have some great equipment, no doubt about it. But when you get to the battlefield and when you see our people operate, it is truly the training that makes the difference. It is the great enabler that makes everything else work. "

Gen Richard Hawley,
ITSEC keynote speech
1 Dec, 1998



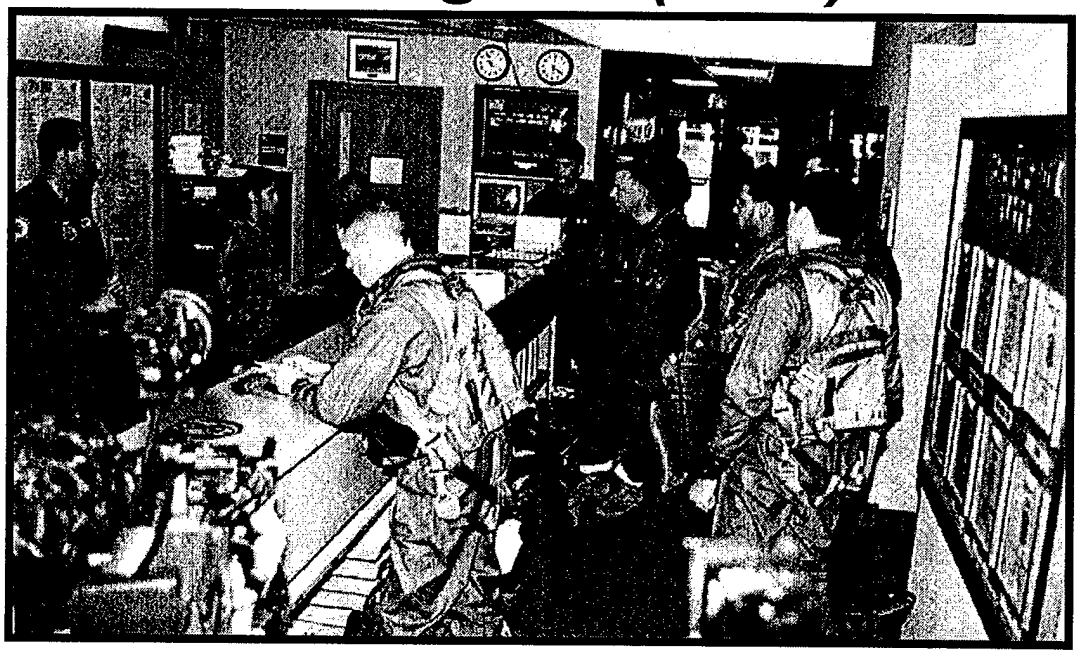


In ACC, readiness is the focus of training

READINESS TRAINING

ACC combat aircrews provided to CINCs are trained using the Ready Aircrew Program (RAP)

RAP tasks ACC unit commanders with flying specific types and number of sorties



RAP tasking is based upon Air Force mission competencies, warplans and broad continuing missions of unified commanders as well as the basic proficiency skills needed for flight safety

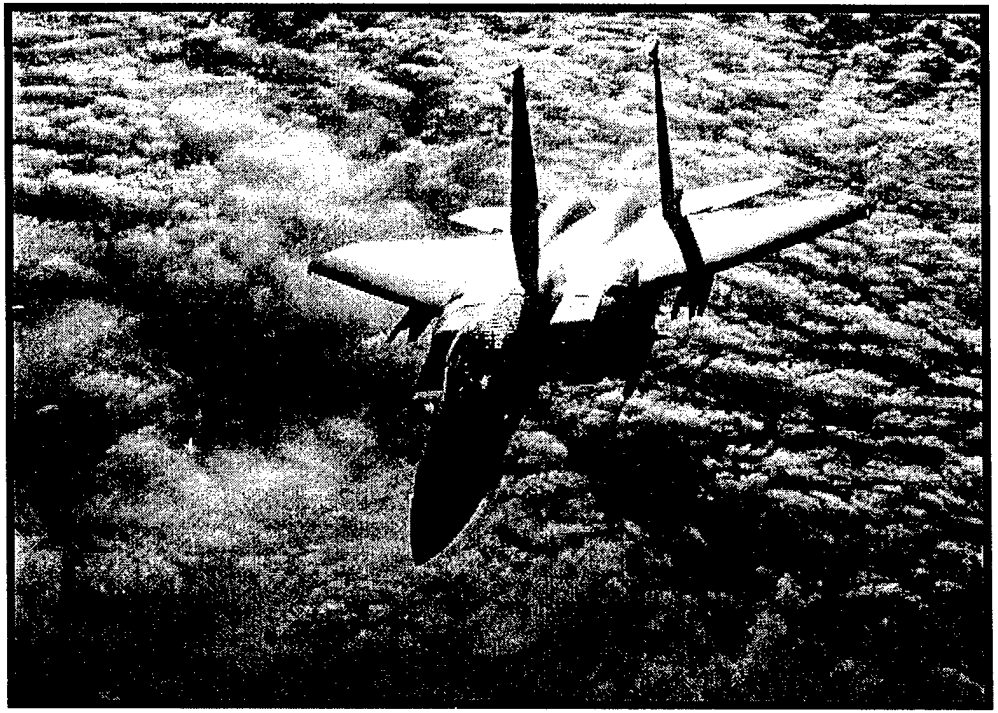
READINESS TRAINING

RAP is used to...

Inexorably links requirements and resources

Program/schedule flying hour program....

Provide objectives against which to measure combat readiness...



While RAP sorties and events are based on combat requirements, they are constrained by several factors...

CONSTRAINTS TO TRAINING

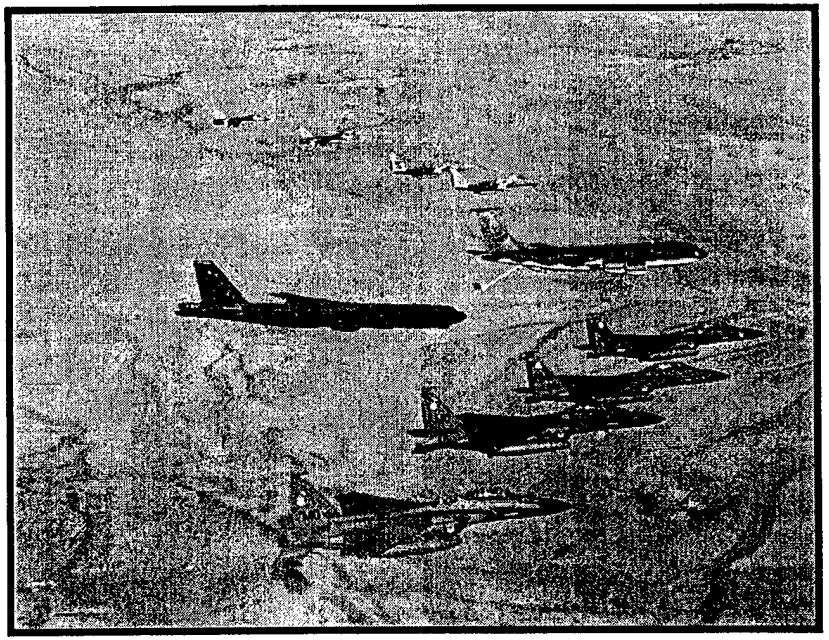
"Do you have any idea how hard it is for us to pull all elements of our warfighting team together to train...same place...same time in peacetime...almost impossible...rarely happens...at RED FLAG, we achieve a degree of that...even there, exception rather than the rule...if we can realize our vision with Distributed Mission Trainers we'll be able to provide our aircrews...combat training to include mission rehearsal every day of the week, fifty-two weeks a year…an unprecedented improvement in the quality of training that we provide to those troops that we ask to go execute our mission every day..."

General Richard Hawley



CONSTRAINTS TO TRAINING

Constraints are becoming more significant…



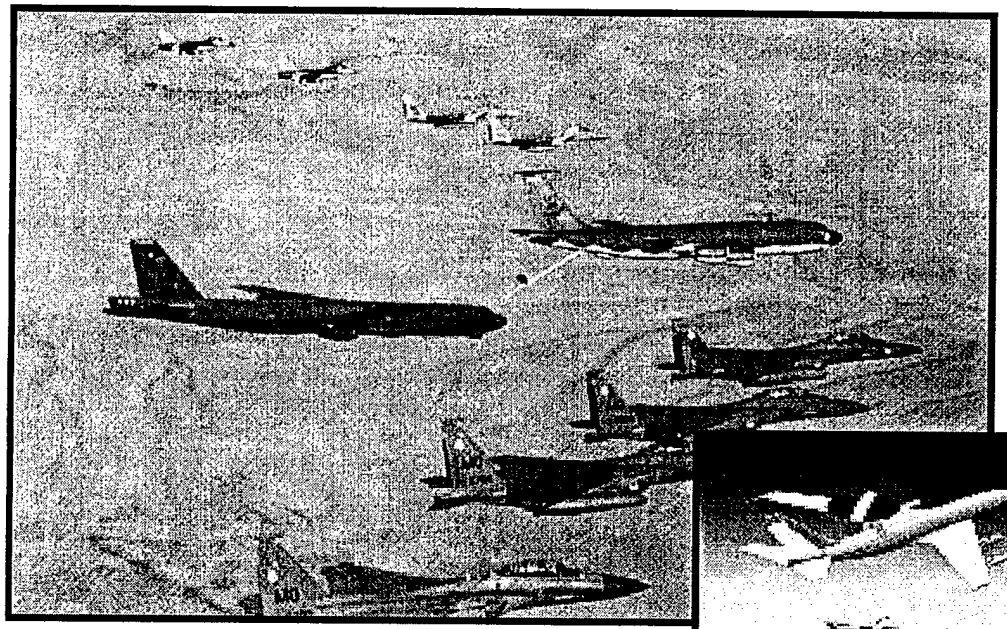
Resources and funding…ranges, flying, time, etc.

Equipment and personnel… airframe wear, optempo, deployments, etc.

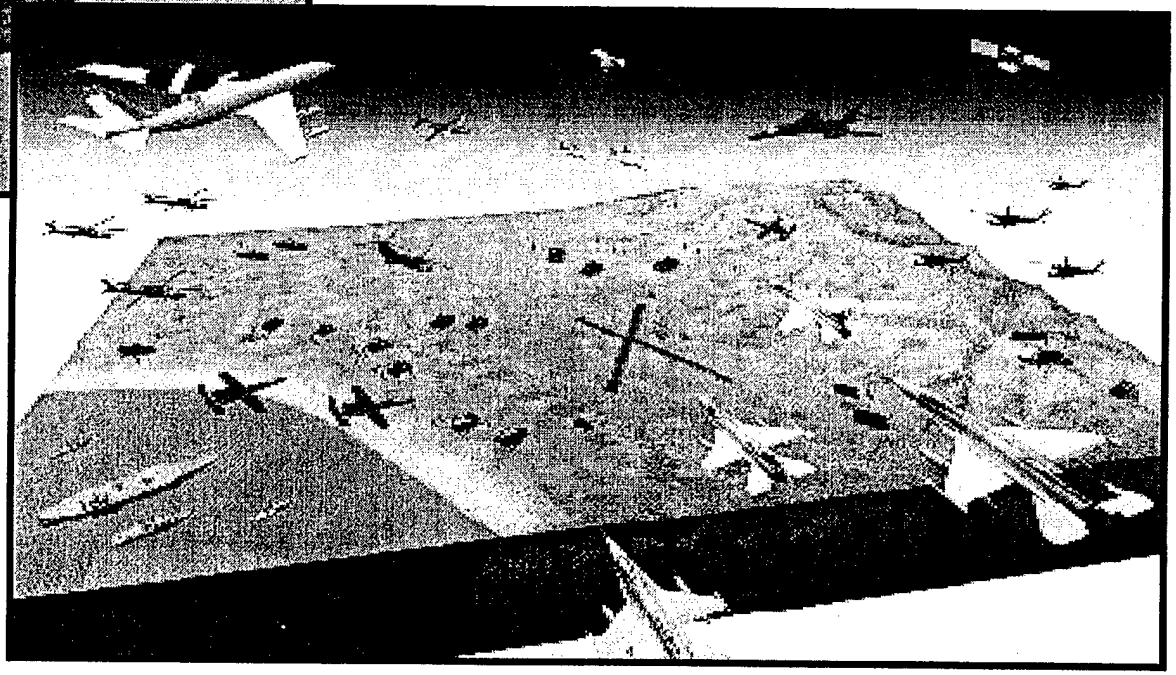
Safety and security… live weapons employment, classified systems, etc

… modern weapons and employment concepts require extensive airspace, large ranges, and more composite training opportunities.

DISTRIBUTED MISSION TRAINING



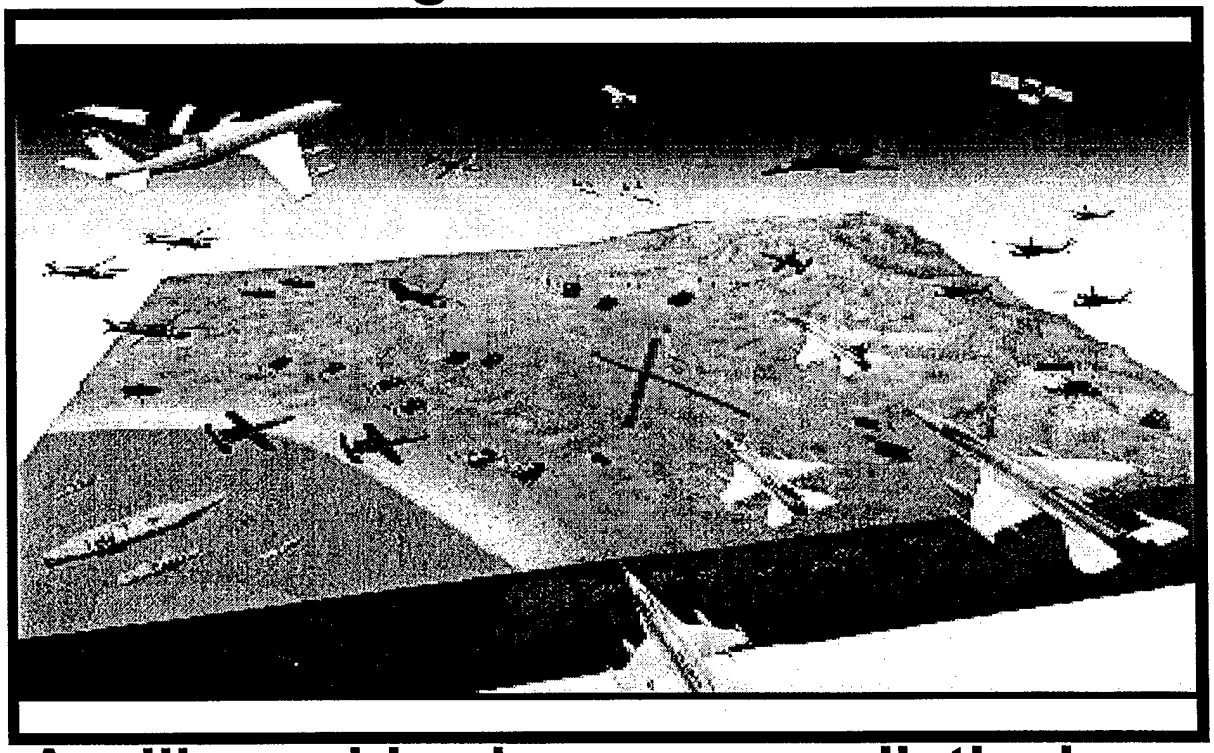
One solution is to augment readiness training...



...using a synthetic battlespace

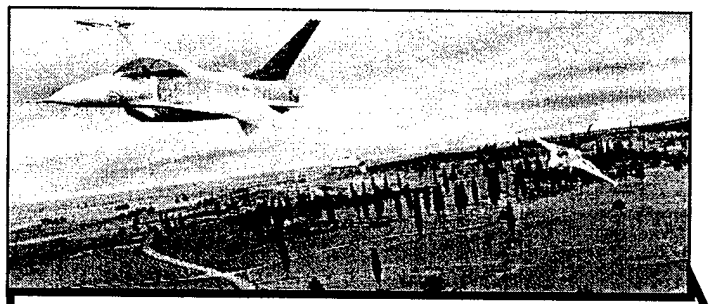
AIRCREW
DISTRIBUTED MISSION TRAINING

Team Training . . . Mission Rehearsal



DMT- A will provide aircrews a realistic, immersive environment, to support the entire spectrum of training from individual training up to level-mission rehearsal.

DMT-A PURPOSES



Team Training

Wing/Squadron

RAP Accreditation

DMT



Mission Rehearsal

AEF Preparation

JFACC Rehearsal

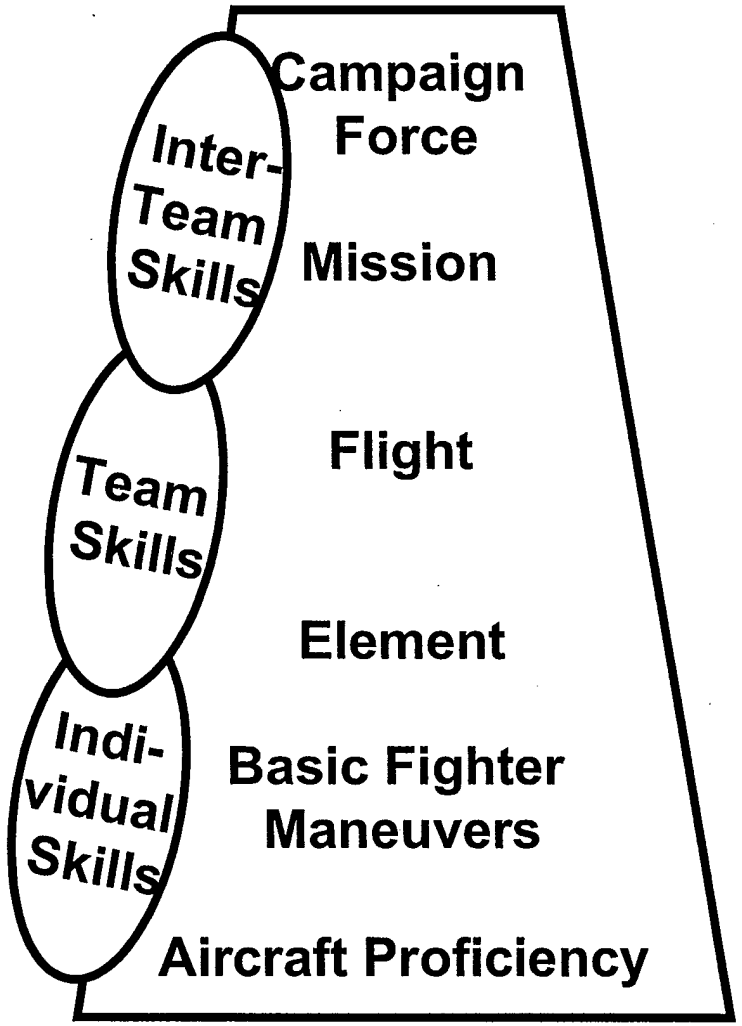
Ancillary Capability



Experimentation, Exercise Support, Testing

TEAM TRAINING

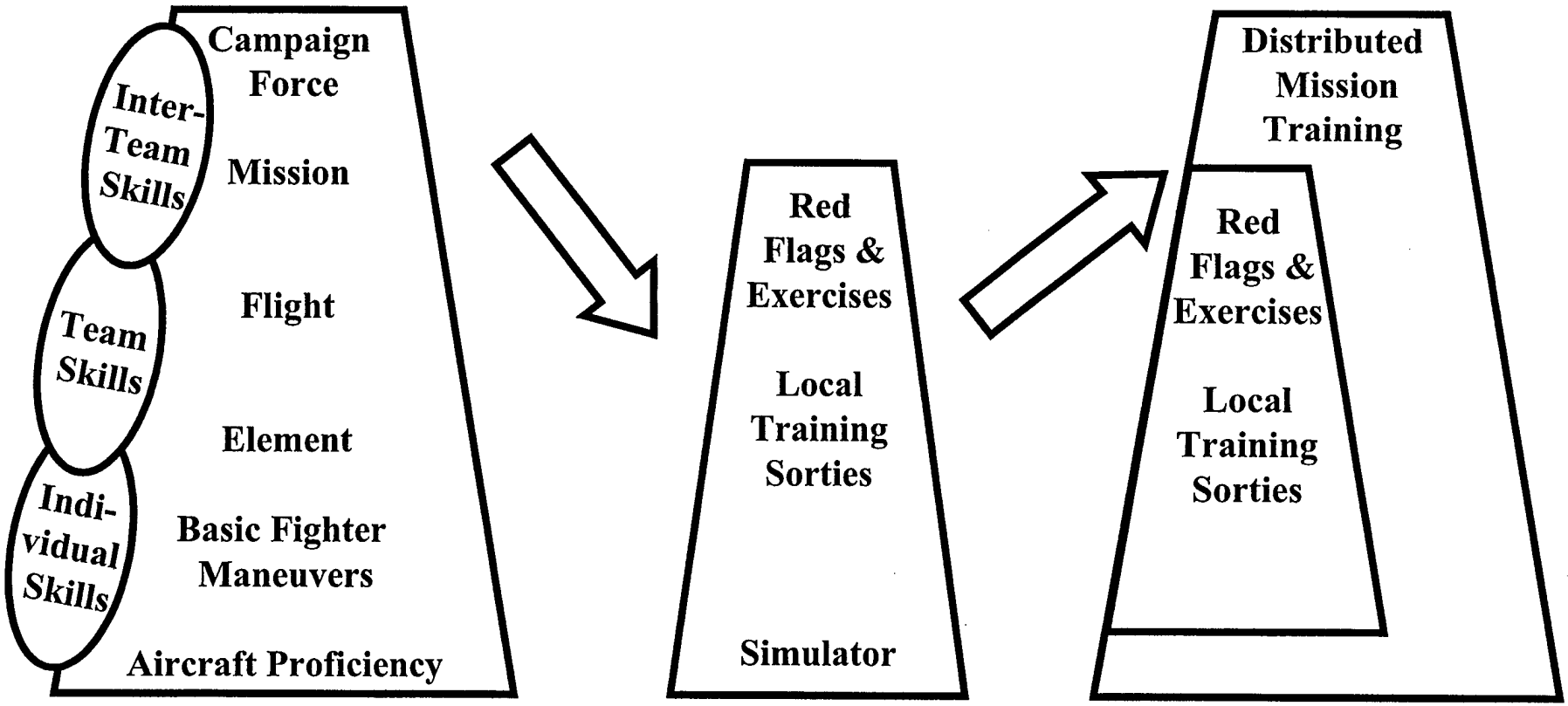
- Team training includes three skill categories
  - Inter-team skills - Collective skills needed to execute missions (e.g., AWACS and F-15C flights conducting defensive counter air)
  - Team skills - Flight and element skills needed to execute missions or significant portions of missions (e.g., Air Combat Maneuvering)
  - Individual skills - Dynamic individual tasks and skills needed to effectively employ a weapons system as part of a team (e.g., weapons employment)



Hierarchy of Combat Skills

TEAM TRAINING

Team Training will be responsive to unit commanders and complement live fly.



Hierarchy of Combat Skills **Current Flying Training** **Training with MTC**

ANCILLARY CAPABILITIES

Mission Rehearsal

DMT

Team Training

Experimentation

Wrafighting concepts
Tactics Development
Weapons testing
R&D
OFP tape testing
Training technology

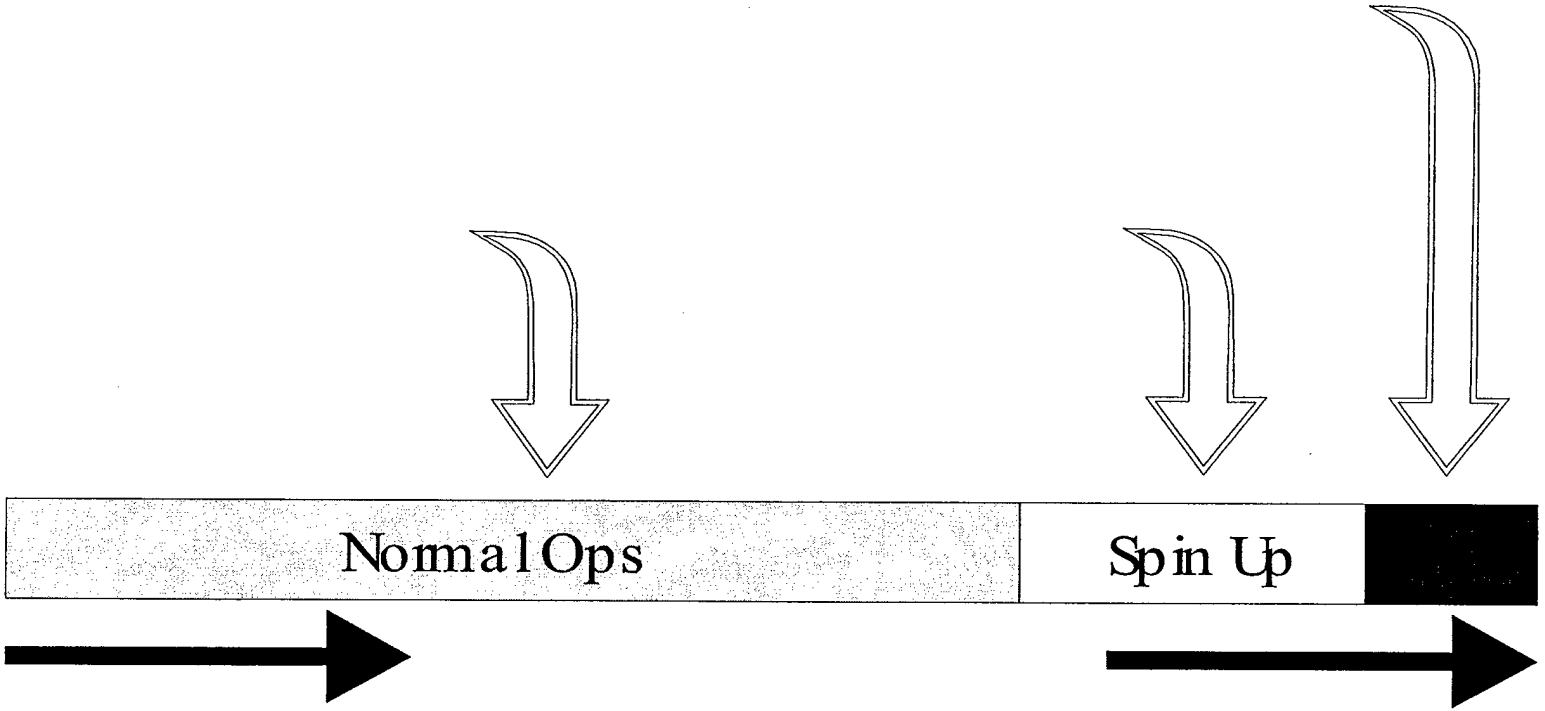
Exercises

Battlestaff training
CINC support
C4ISR concepts



The DMT team training and mission rehearsal battlespace provides important non-operational capabilities for experimentation and exercise

DMT MISSION REHEARSAL

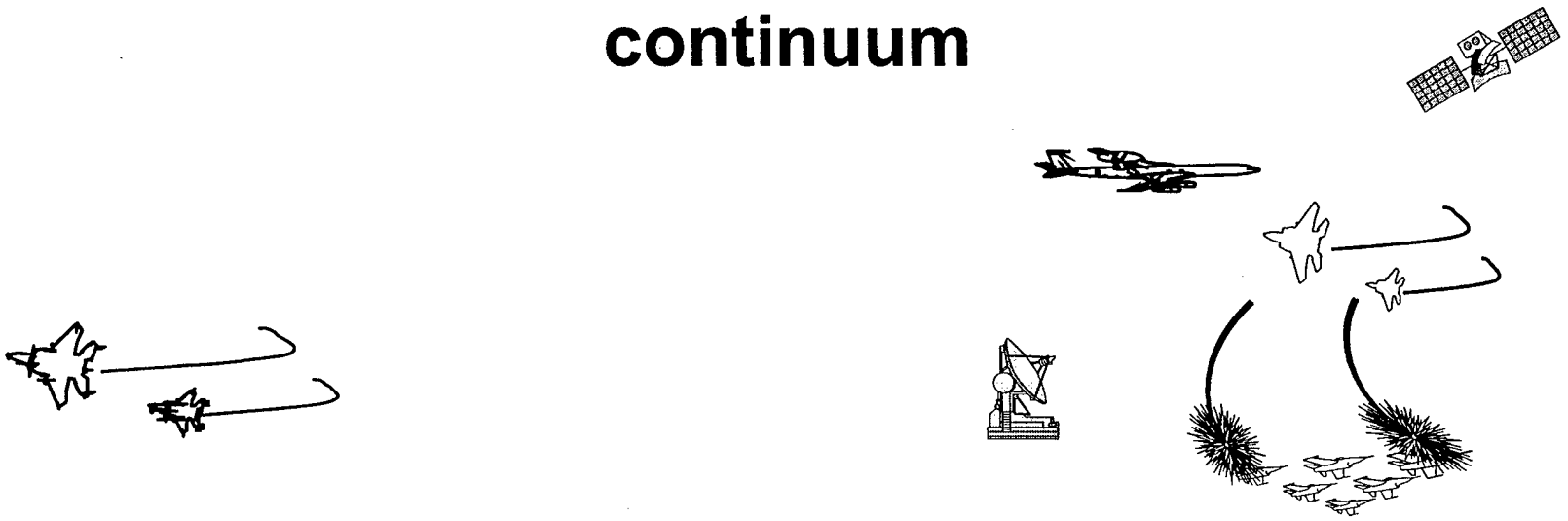


DMT can be used to prepare and support AEF warfighters for operations in their AOR

DMT-A EVENT CONTINUUM

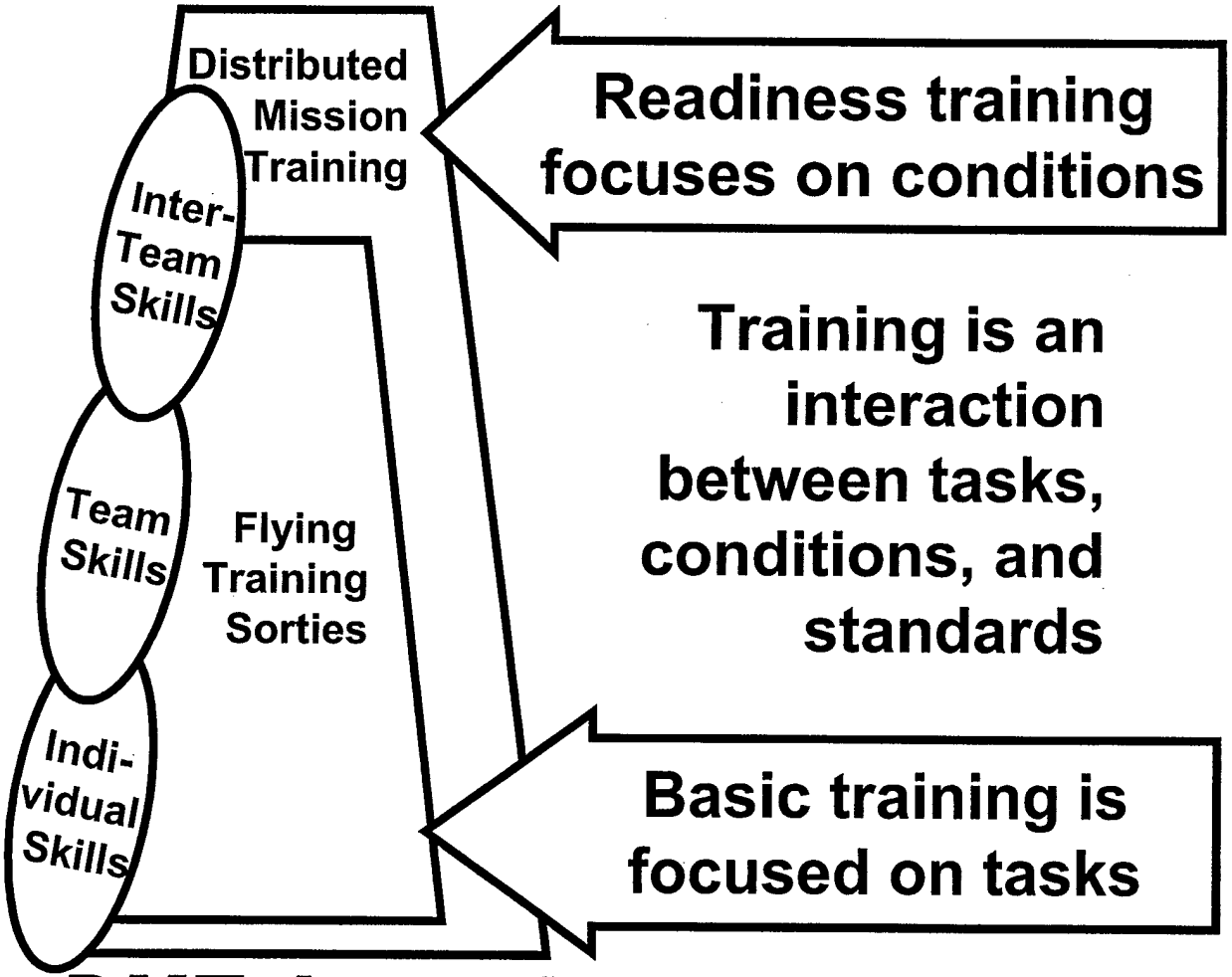
At any time multiple events run on the DMT-A network

DWC will manage the coordination along the continuum



Stand-alone ⟷ **Large Distributed**

READINESS TRAINING

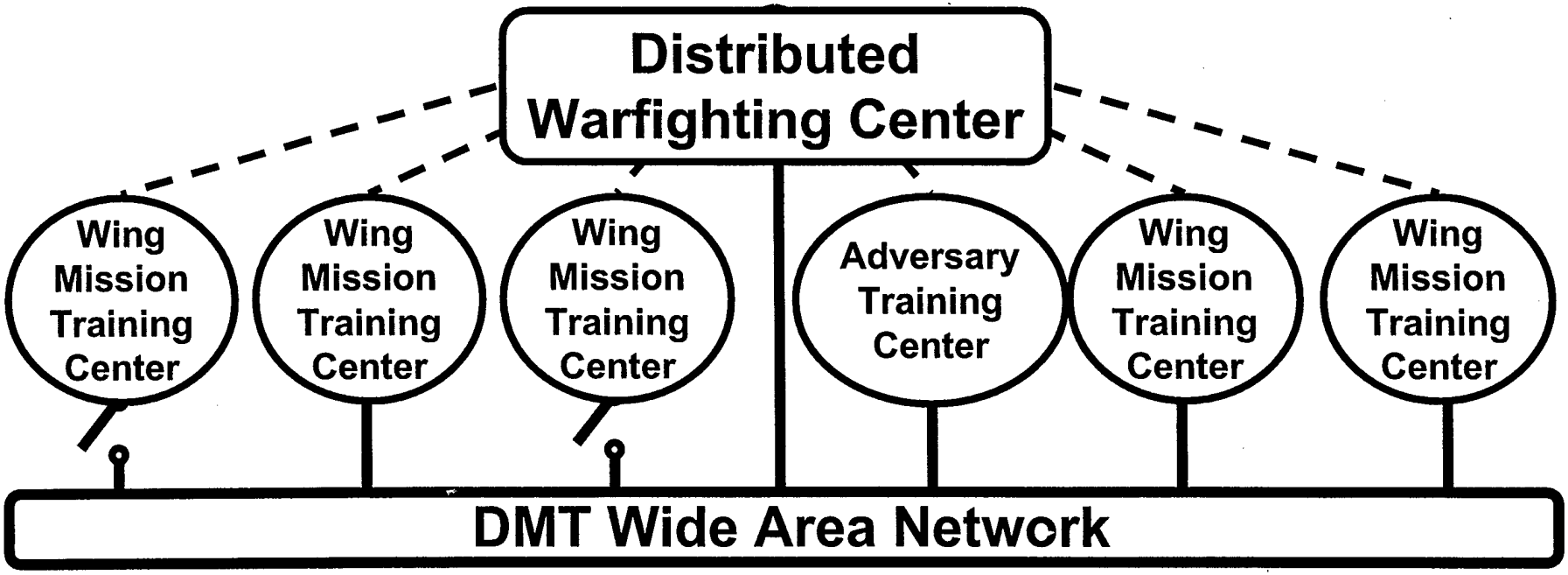


Mission essential competency for "experts" requires a different approach than training for "novices."

DMT-A requires an immersive environment centered on mission essential competencies

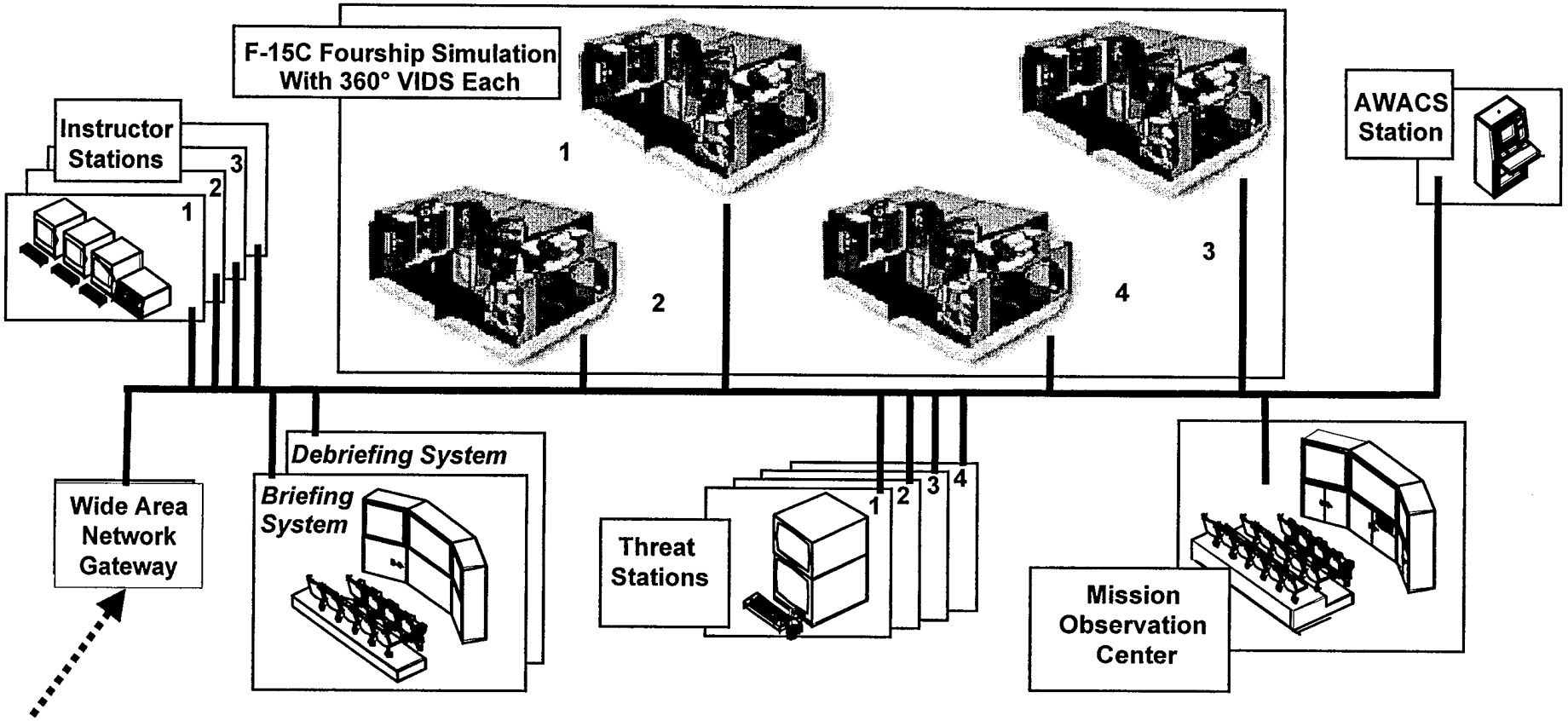
MAIN DMT COMPONENTS

The wing Mission Training Center (MTC) is the primary component component of DMT-A



The Distributed Warfighting Center (DWC) is a support component

F-15C MISSION TRAINING CENTER



Eglin AFB - in place **Langley AFB - June 99**

Training Effectiveness Evaluation Jul-Sep 99

COMACC Briefing - Dec 99

F-15C MTC COSTS

F-15C Aircraft

F-15C MTC Simulator

Initial contract term of 7 years valued at $333.4M
Award terms: potential for additional 8 years of services valued at $238.4M

OTHER INITIATIVES

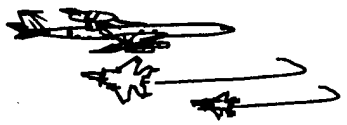
- Rivet Joint - Adjusted Simulator upgrade proposal to include Phase 5 DMT Integration (est. FY02)
- B-1 - F model simulators will be DMT compatible
- F-15E - Exploring best path (legacy vs. new)
- A-10 - Fielding simulator first, then migrating
- B-2 - Becoming HLA compliant; waiting for Link 16 (est. FY02)
- F-22 - Planning for FY06
- JSF - Developing Joint Common Battlespace

ACC DMT ROADMAP

ACC Goal - Robust mission environment by FY06

Mission Training Center (MTC) at each operational unit

Distributed Warfighting Center (DWC) to support MTCs



Fighter & Air Battle Management

DWC
F-15C
AWACS

Package & Composite Force

F-16(50/40)
Rivet Joint
B-2

Air Expeditionary & Large Force Employment

F-16(30) F-117
F-15E F-22 ABL
JSTARS JSF
B-1B A-10

Common Synthetic Battlespace

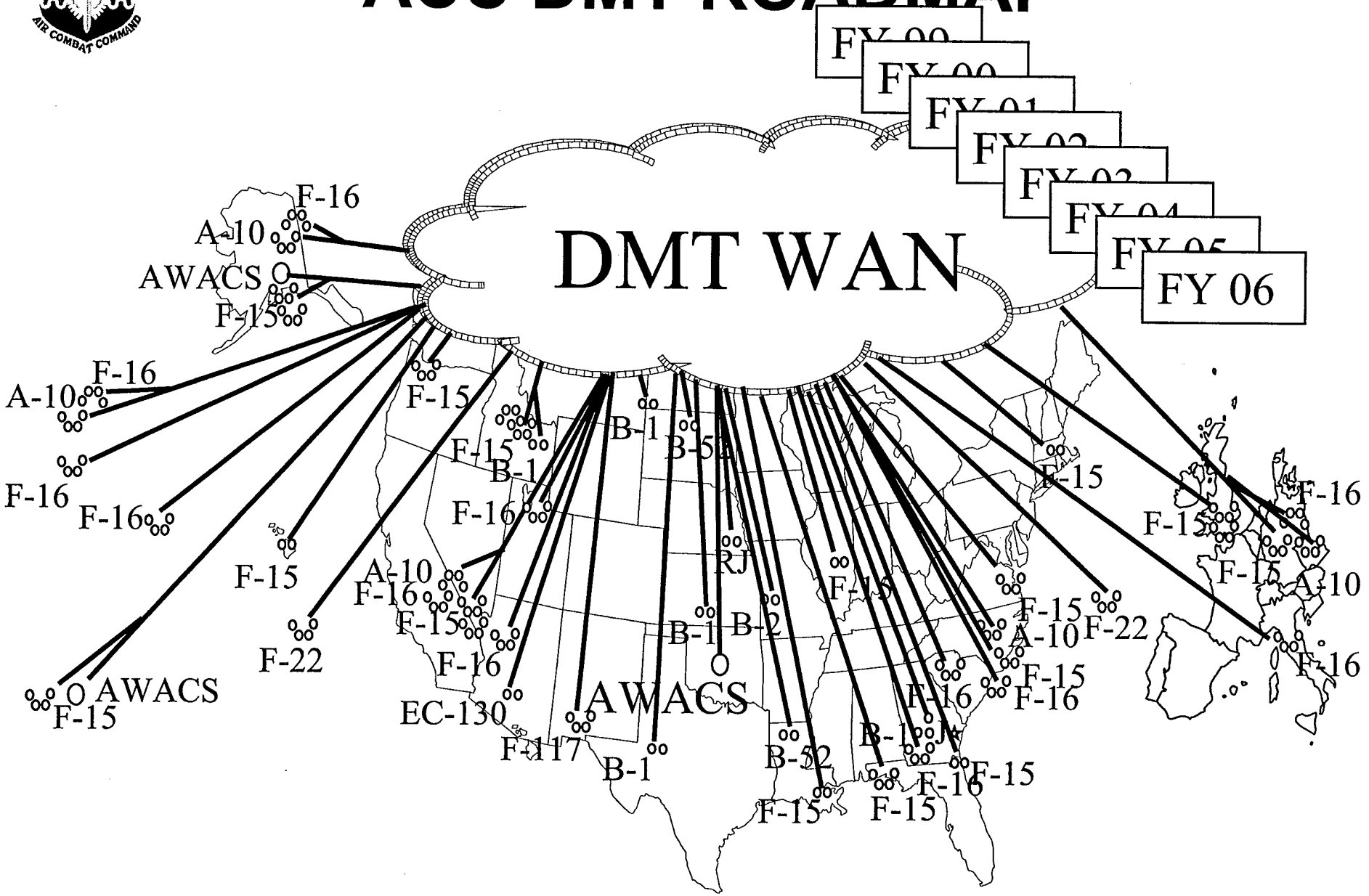
Connectivity to
Joint and
Service
Systems

Incremental Expansion of DMT Network and Capabilities

Team Training → **Mission Rehearsal**

FY 99 *FY 01* *FY 02* *FY04* *FY 06* *FY 07* *FY 08* *FY 10*

ACC DMT ROADMAP



Distributed Mission Training

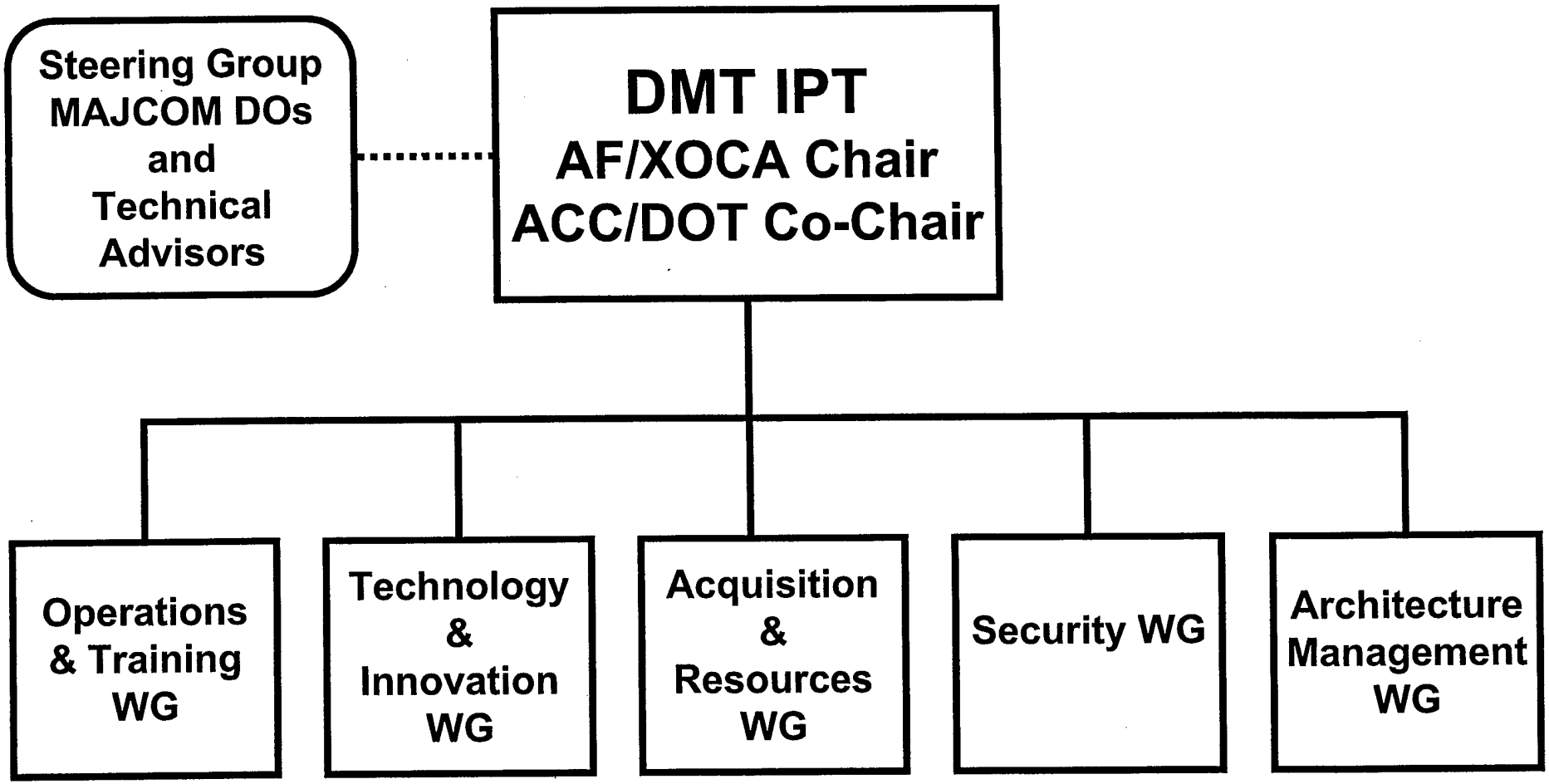
...all things,
to all people...

AIR FORCE DMT IPT

- Formulate and manage an integrated, multi-command strategy to achieve a fully interoperable, Air Force-wide training system.
- Set priorities for integrating core capabilities, ensuring interoperability, and eliminating redundancy.
- Provide synchronization, oversight and direction for the development of the DMT Air Force-wide system-of-systems.

ACC's DMT-A is only one component of Air Force DMT

AF DMT IPT STRUCTURE



TRAINING SERVICES

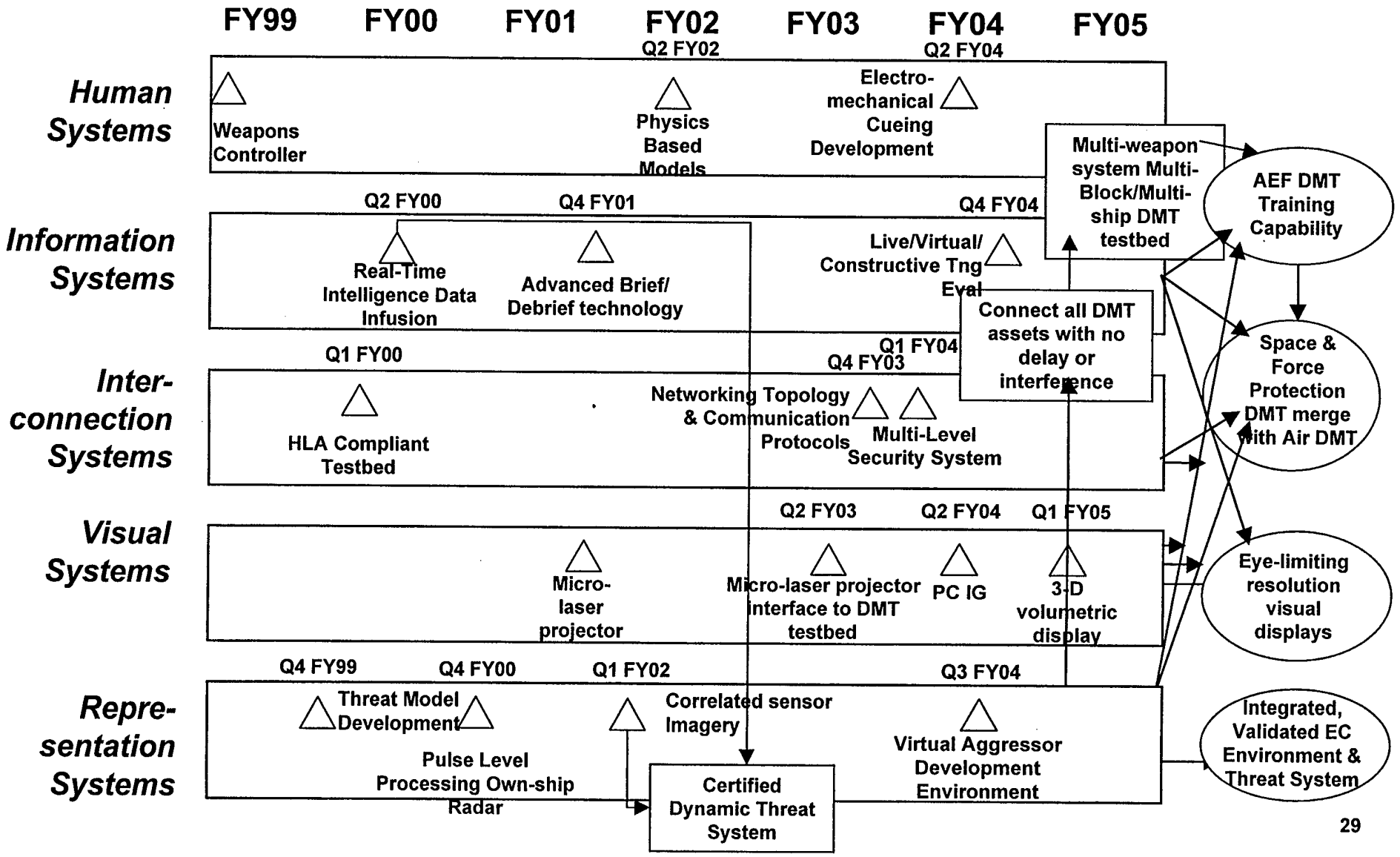
- ACC prefers to buy services not hardware
  - Difficult to harness technological improvements using traditional acquisition practices
  - Training acquisition often fails to successful compete with weapons system acquisition
  - Concurrency problems with aircraft
- Advantage to industry
  - Long term relationship
  - Streamlined acquisition
  - Apply commercial practices
- Challenges
  - Operational risk to ACC
  - Financial commitment by industry
  - Integration/compliance with DoD standards and policies (e.g. HLA, JTA, multi-level security etc.)

DMT- A TECHNOLOGY

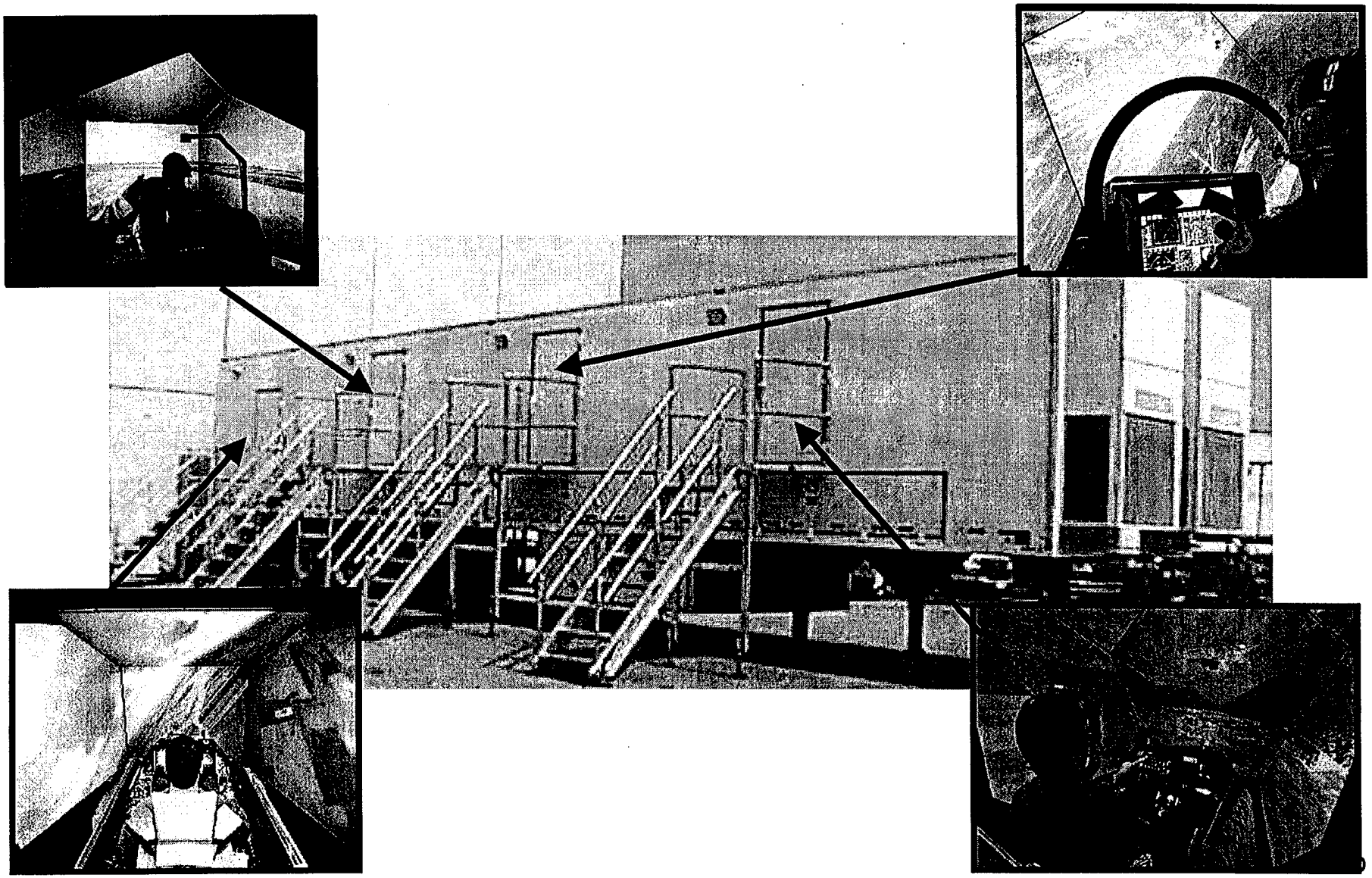
- Human Systems Technology
  - Control Station
  - Cueing
  - Cockpit Technologies
  - Physics-based Modeling
- Information Technology
  - Performance Feedback
  - Advanced Brief and Debrief
  - Mission Planning
  - Real-time Intelligence Data Fusion
  - Live/Virtual/Constructive and interfaces
- Interconnection Technology
  - High Level Architecture (HLA)
  - Networking
  - Multi-level Security
- Visual Technology
  - Visual Displays
  - Microlaser Projection
  - Helmet mounted Displays
  - 3D Monitors
  - Image Generation
- Representation Technology
  - Synthetic Environments
  - Semi-automated Forces
  - Human Computer Interfaces
  - Databases
  - Correlated Sensor Imagery
  - Electronic Combat Environment
  - Threat Cockpits and modeling
  - Virtual Aggressor Environment

(Pull technologies)

TECHNOLOGY


FY99
FY00
FY01
FY02
FY03
FY04
FY05
Human Systems
Information Systems
Inter-connection Systems
Visual Systems
Repre-sentation Systems
Q2 FY02
Q2 FY04
Weapons Controller
Physics Based Models
Electro-mechanical Cueing Development
Q2 FY00
Q4 FY01
Q4 FY04
Real-Time Intelligence Data Infusion
Advanced Brief/ Debrief technology
Live/Virtual/ Constructive Tng Eval
Q1 FY00
Q1 FY04
Q4 FY03
HLA Compliant Testbed
Networking Topology & Communication Protocols
Multi-Level Security System
Q2 FY03
Q2 FY04
Q1 FY05
Micro-laser projector
Micro-laser projector interface to DMT testbed
PC IG
3-D volumetric display
Q4 FY99
Q4 FY00
Q1 FY02
Q3 FY04
Threat Model Development
Pulse Level Processing Own-ship Radar
Correlated sensor Imagery
Virtual Aggressor Development Environment
Certified Dynamic Threat System
Multi-weapon system Multi-Block/Multi-ship DMT testbed
Connect all DMT assets with no delay or interference
AEF DMT Training Capability
Space & Force Protection DMT merge with Air DMT
Eye-limiting resolution visual displays
Integrated, Validated EC Environment & Threat System

Transportability for the AEF



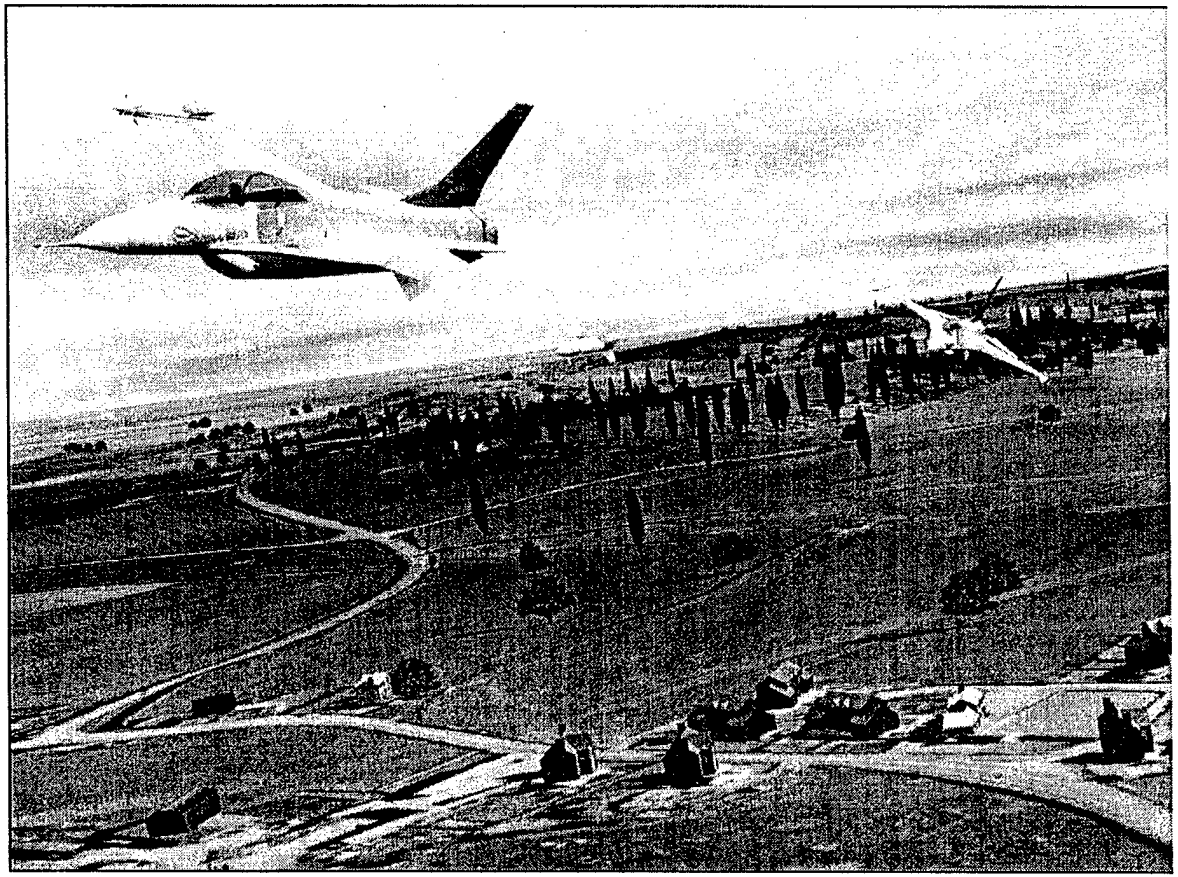
CONCLUDING REMARKS

- Acceptance by warfighters
  - High fidelity visual systems - photo realistic
  - Realistic performance and interactions
- Operational utility
  - RAP accreditation
  - Multi-level security
  - Common databases and environments
  - Integration of legacy systems
  - Scheduling events and recording accomplishments
- Other training issues
  - Funding, use, concurrency, maintenance, support
  - Physiological/physical/psychological limitations of simulator-based readiness training

SUMMARY

Create an immersive environment

Provide opportunities to practice mission essential competencies



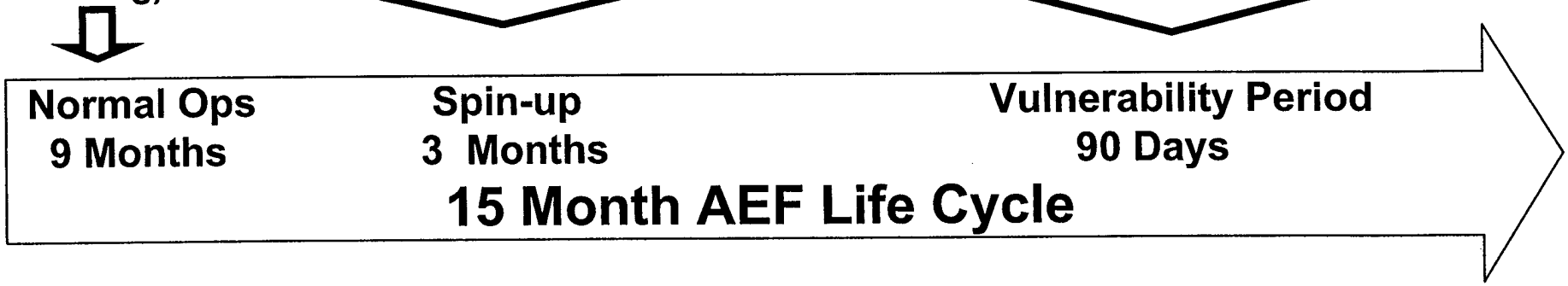
Combat readiness is the purpose of ACC training programs

DMT MISSION REHEARSAL

(Normal daily DMT team training)

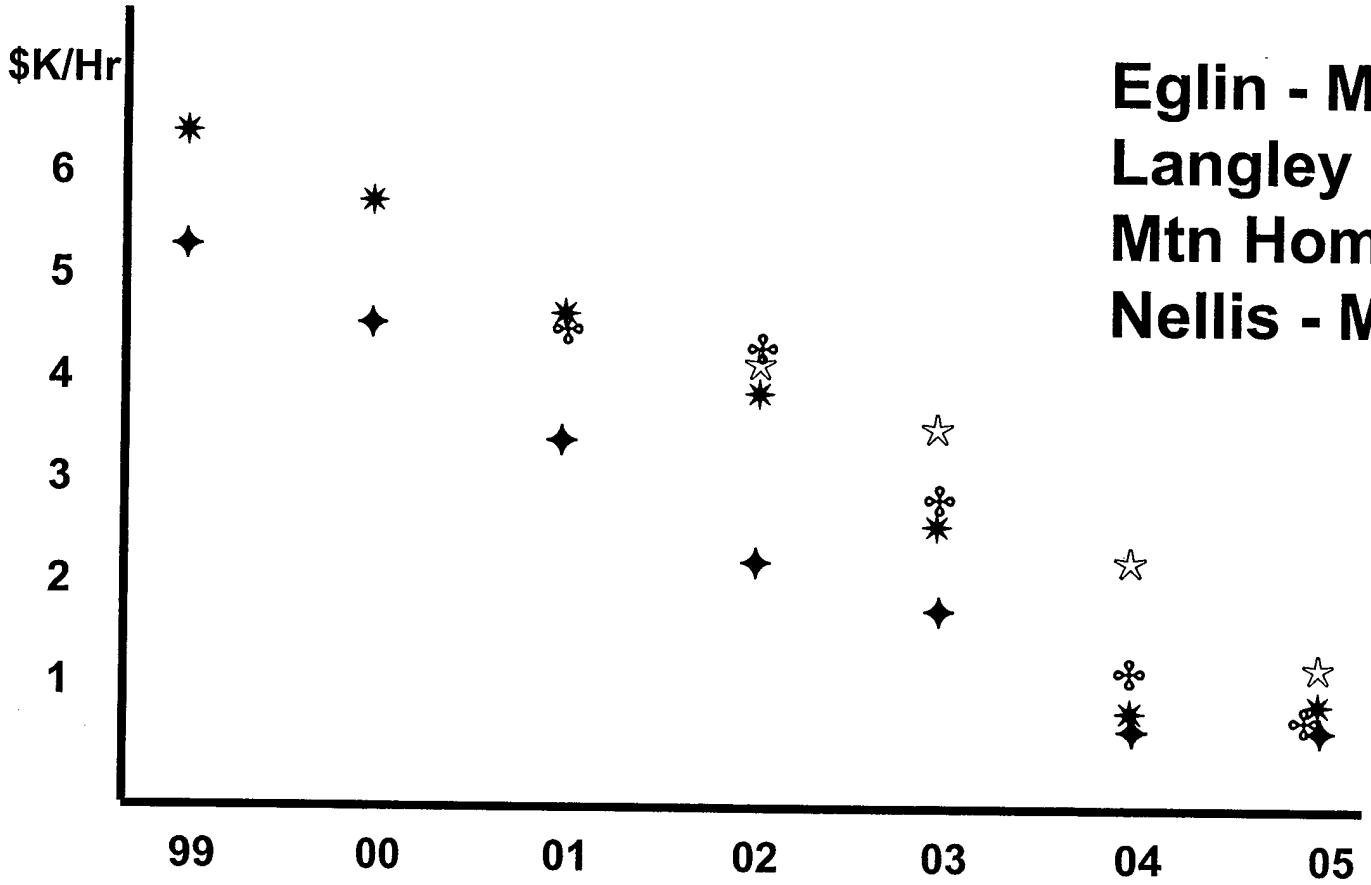
- MTCs conduct team and inter-team rehearsal events
- Integrated with AEF exercises & preparation

- Connect deployed and on-call units
- Practice/analyze courses of action, ROE, theater operating procedures



DMT can be used to prepare and support AEF warfighters for operations in their AOR

F-15C MTC COST/DATES



Initial contract term of 7 years valued at $333.4M

Award terms: potential for additional 8 years of services valued at $238.4M